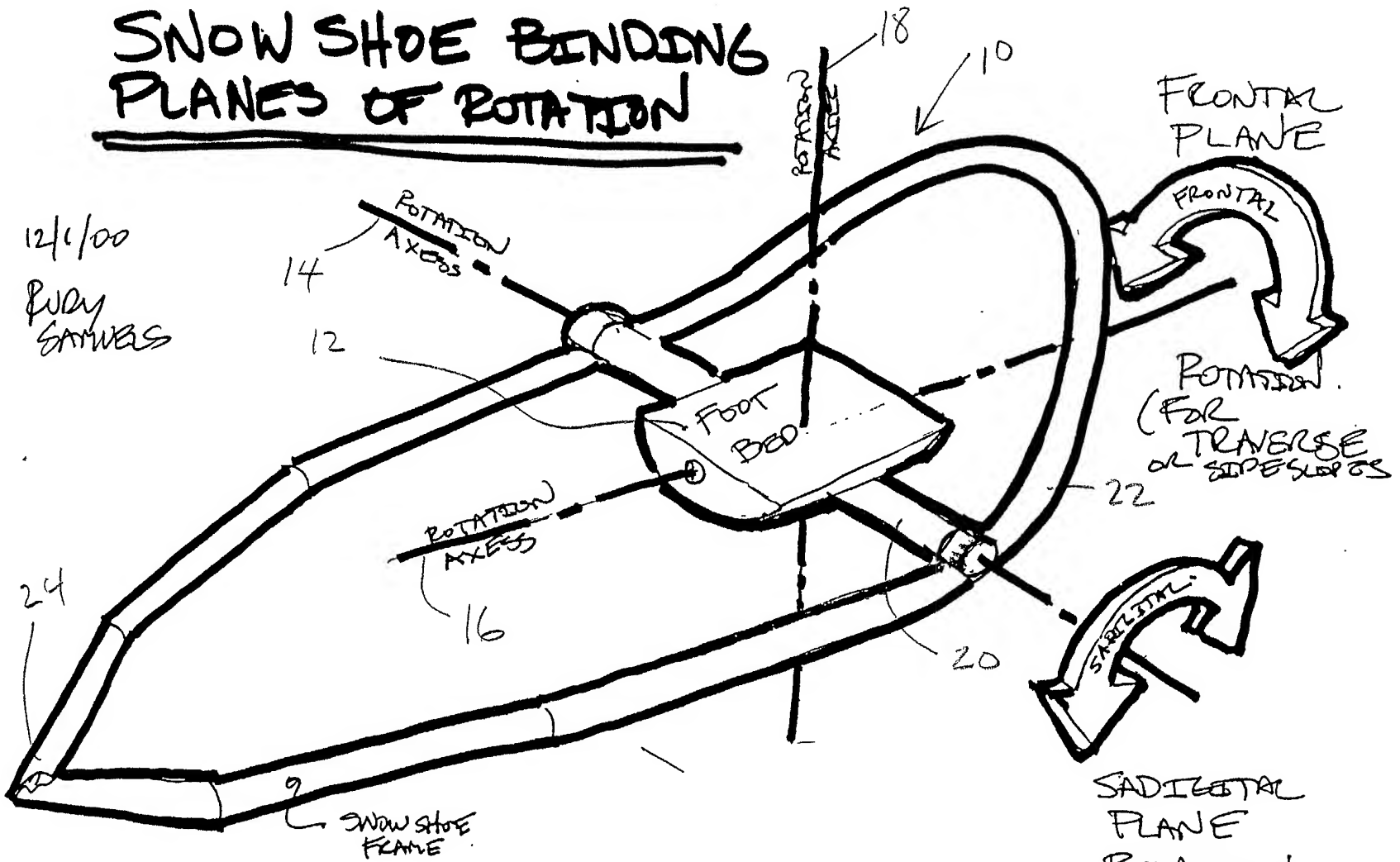
20th OTO 99T6E00T

SNOW SHOE BINDING PLANES OF ROTATION



12/1/00

RUDY SAWYERS

ISO VIEW : SNOW SHOE

FIG. 1

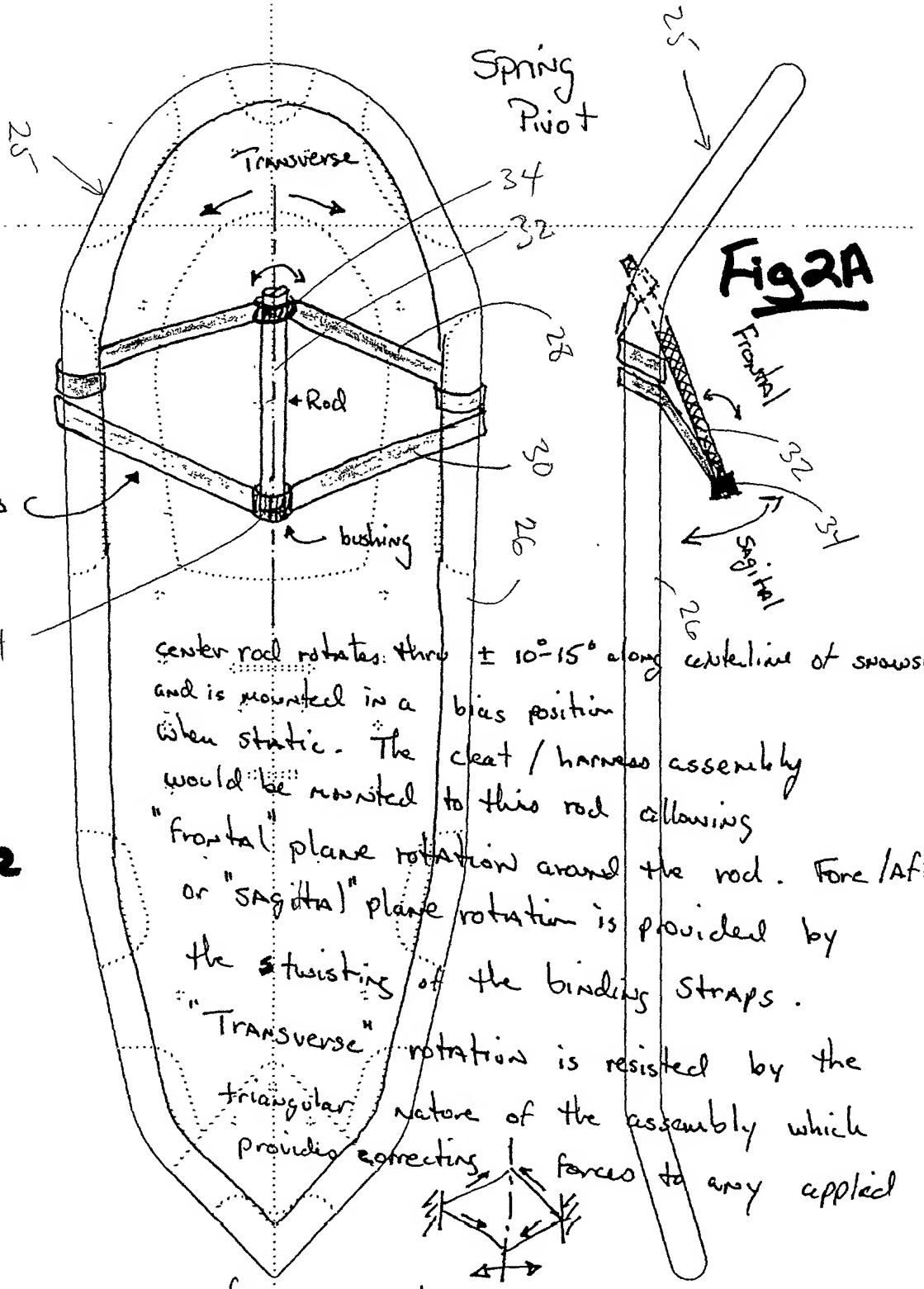


Fig2A

Fig 2

center rod rotates thru ± 10°-15° along centerline of snowsho and is mounted in a bias position when static. The cleat / harness assembly would be mounted to this rod allowing "frontal" plane rotation around the rod. Fore/Aft or "SAGittal" plane rotation is provided by the twisting of the binding straps. "TRANSverse" rotation is resisted by the triangular nature of the assembly which provides correcting forces to any applied force in the TRANSverse plane

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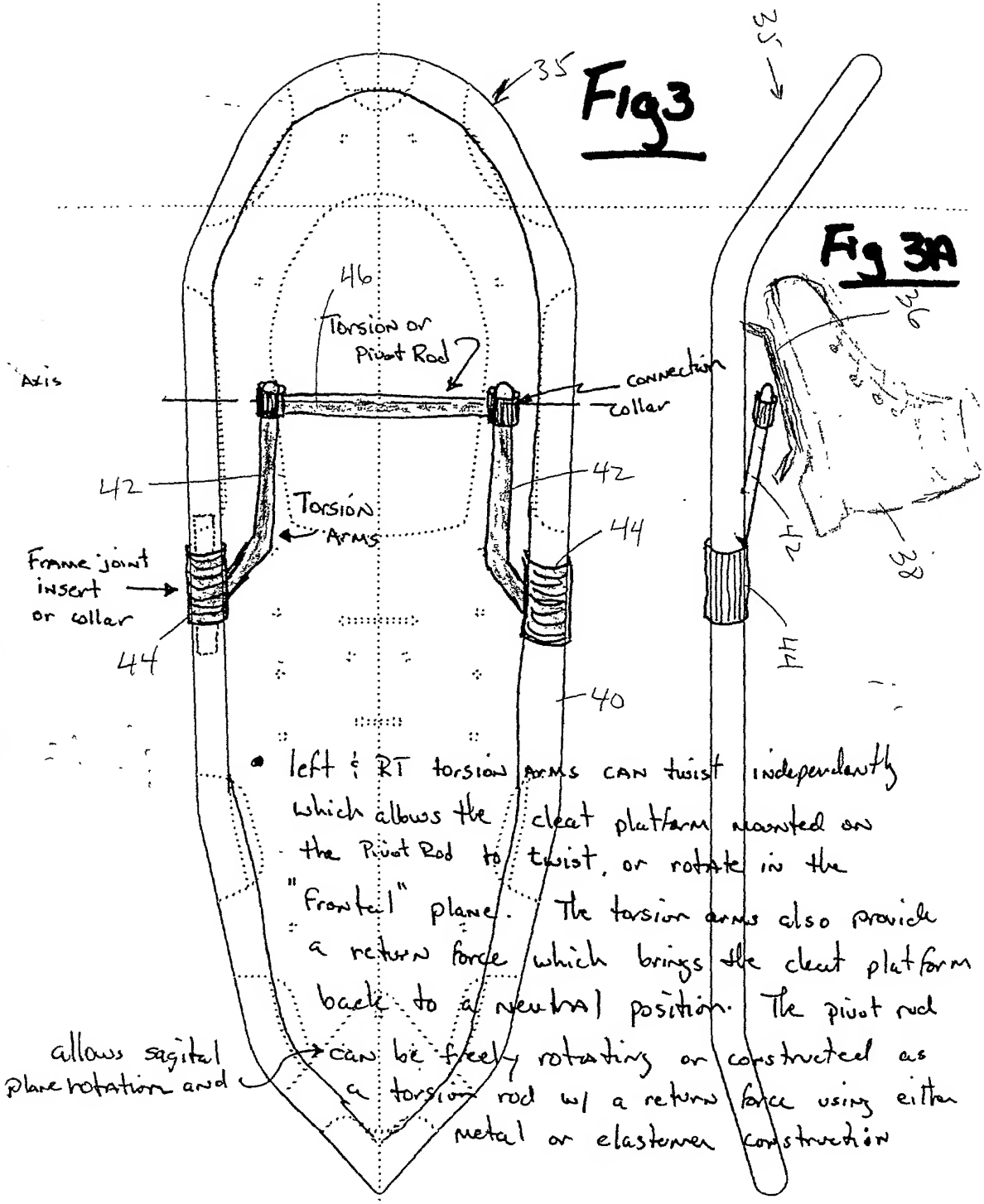

- left & RT torsion arms can twist independently which allows the cleat platform mounted on the Pivot Rod to twist, or rotate in the "Frontal" plane. The torsion arms also provide a return force which brings the cleat platform back to a neutral position. The pivot rod

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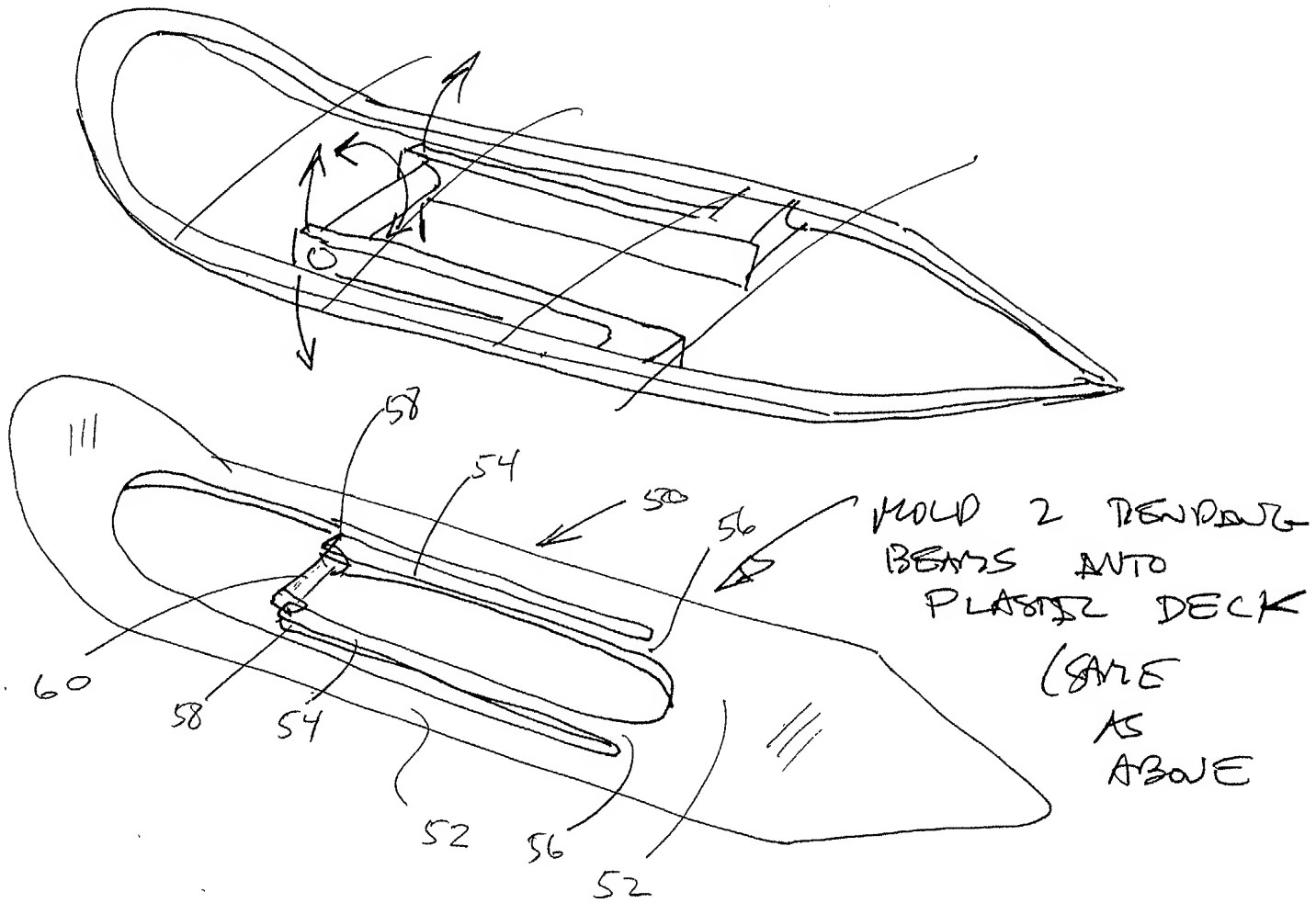


FIG. 3B

PHOTO 99T6007

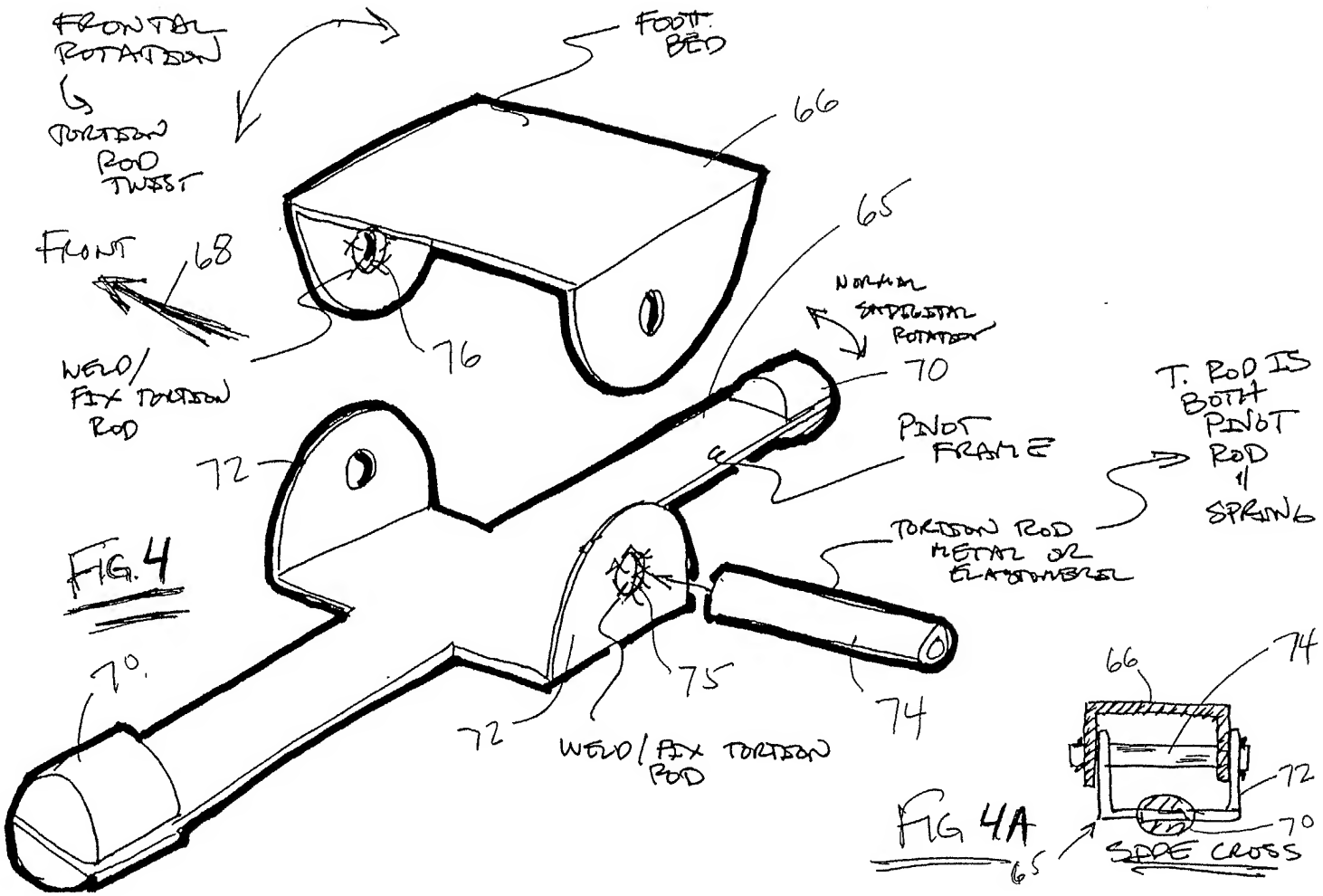


FIG. 4

FIG 4A

PHOTO 9966001

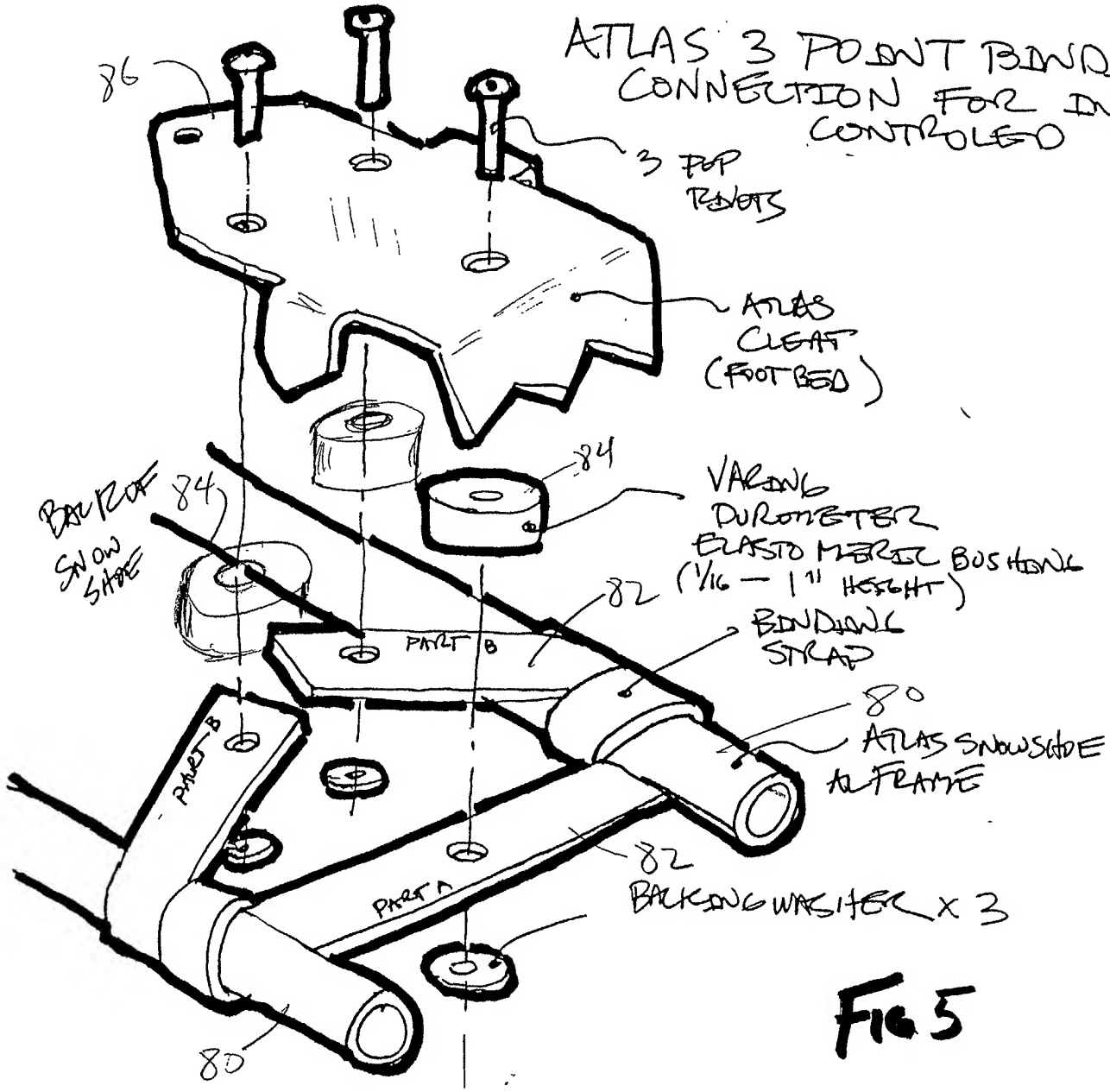


FIG 5

20+070" 9976E001

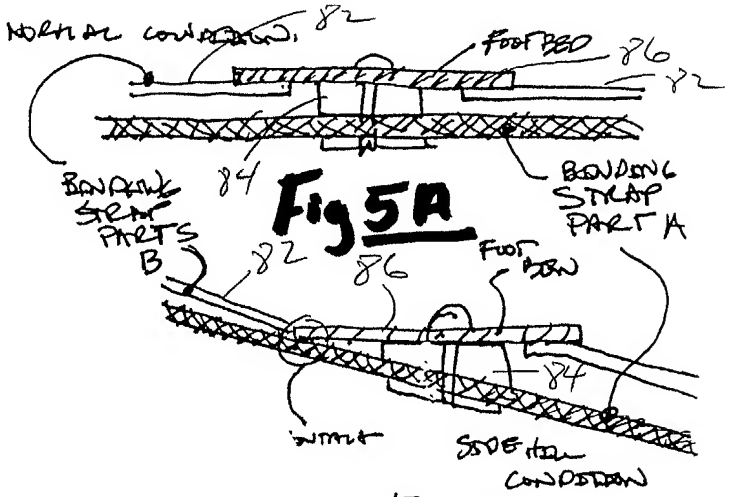


Fig 5A

FRONT VIEW

Fig 5B

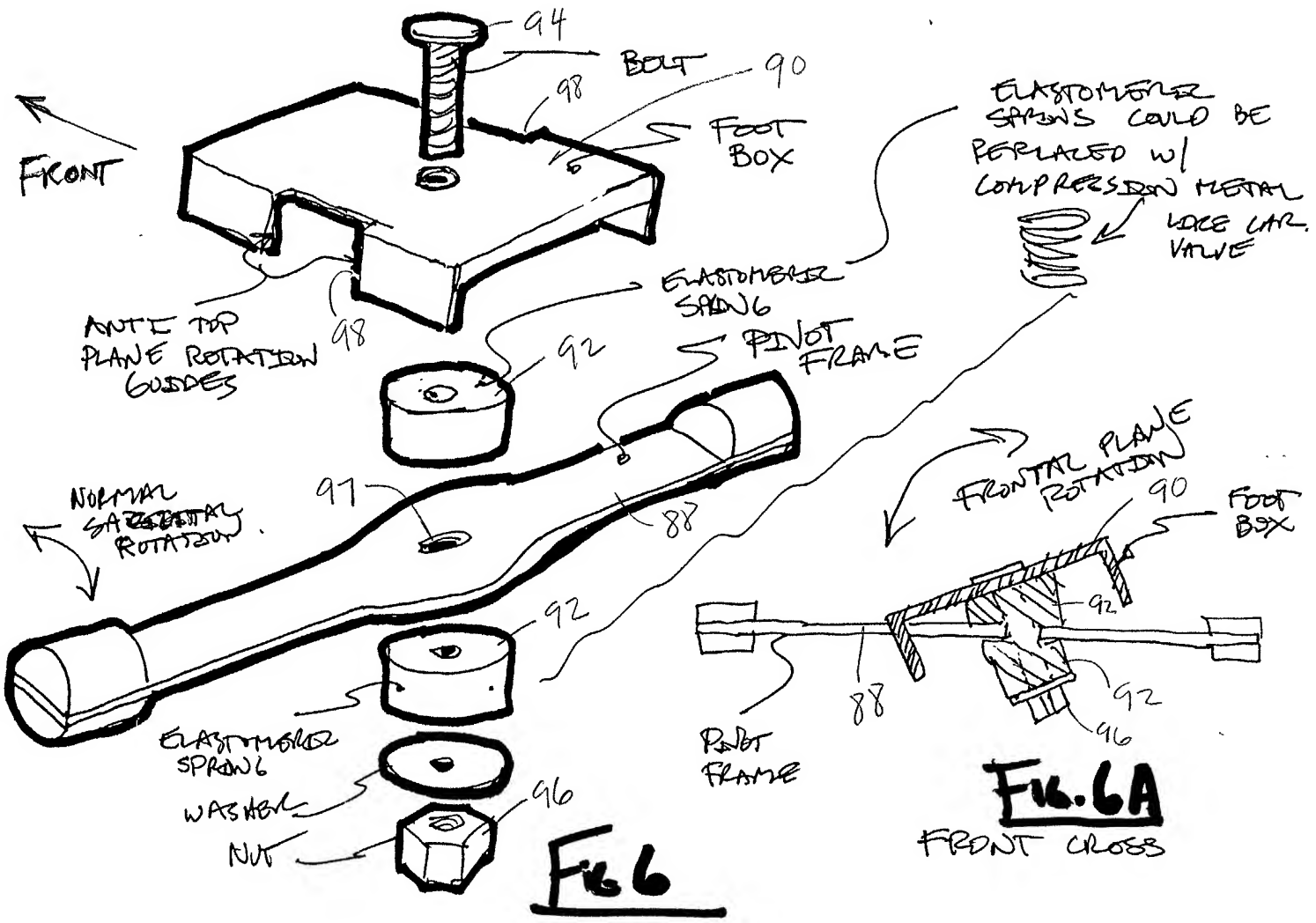


FIG 6

FIG. 6A
FRONT CROSS

20HOTO "99T6EOOT

DUAL LEAF SPRING DESIGN

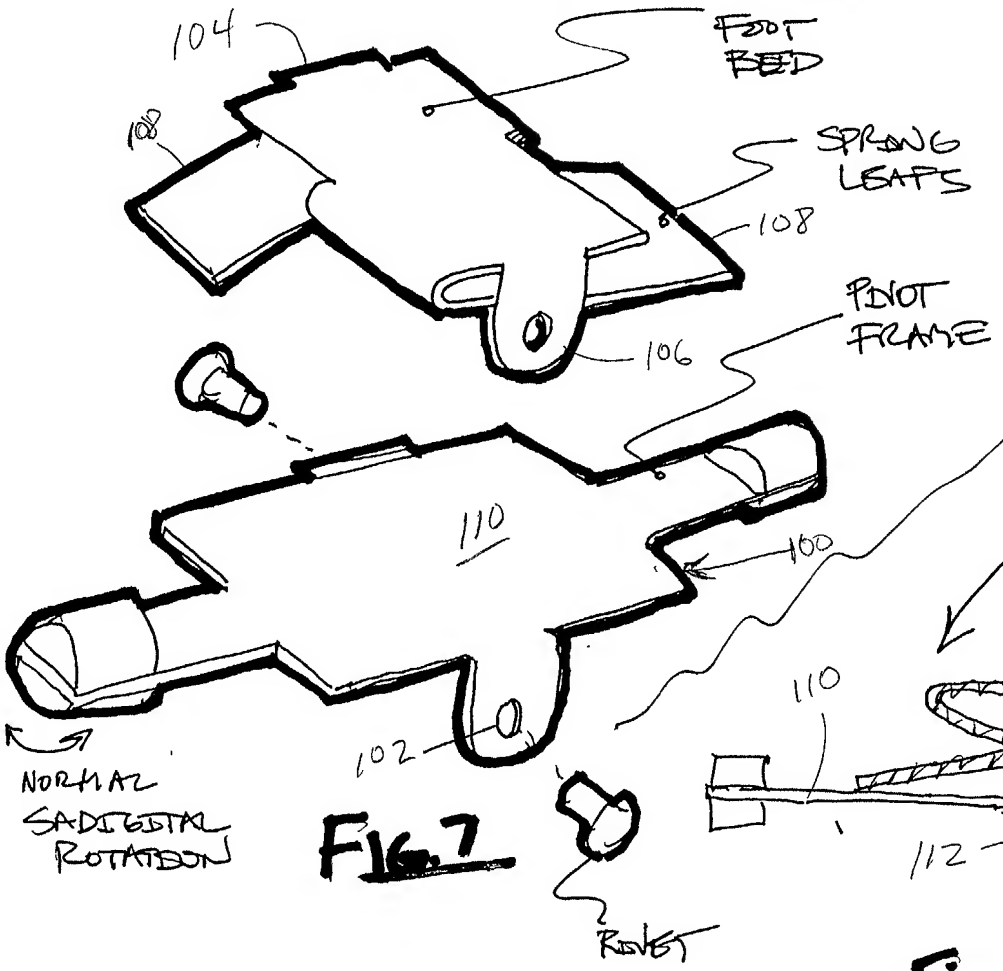


Fig. 7

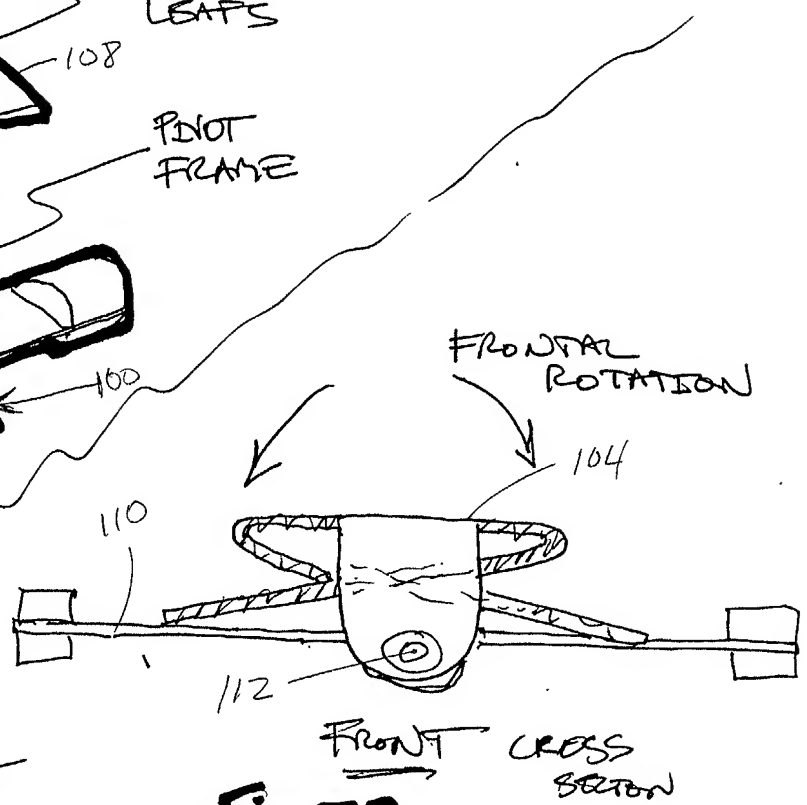
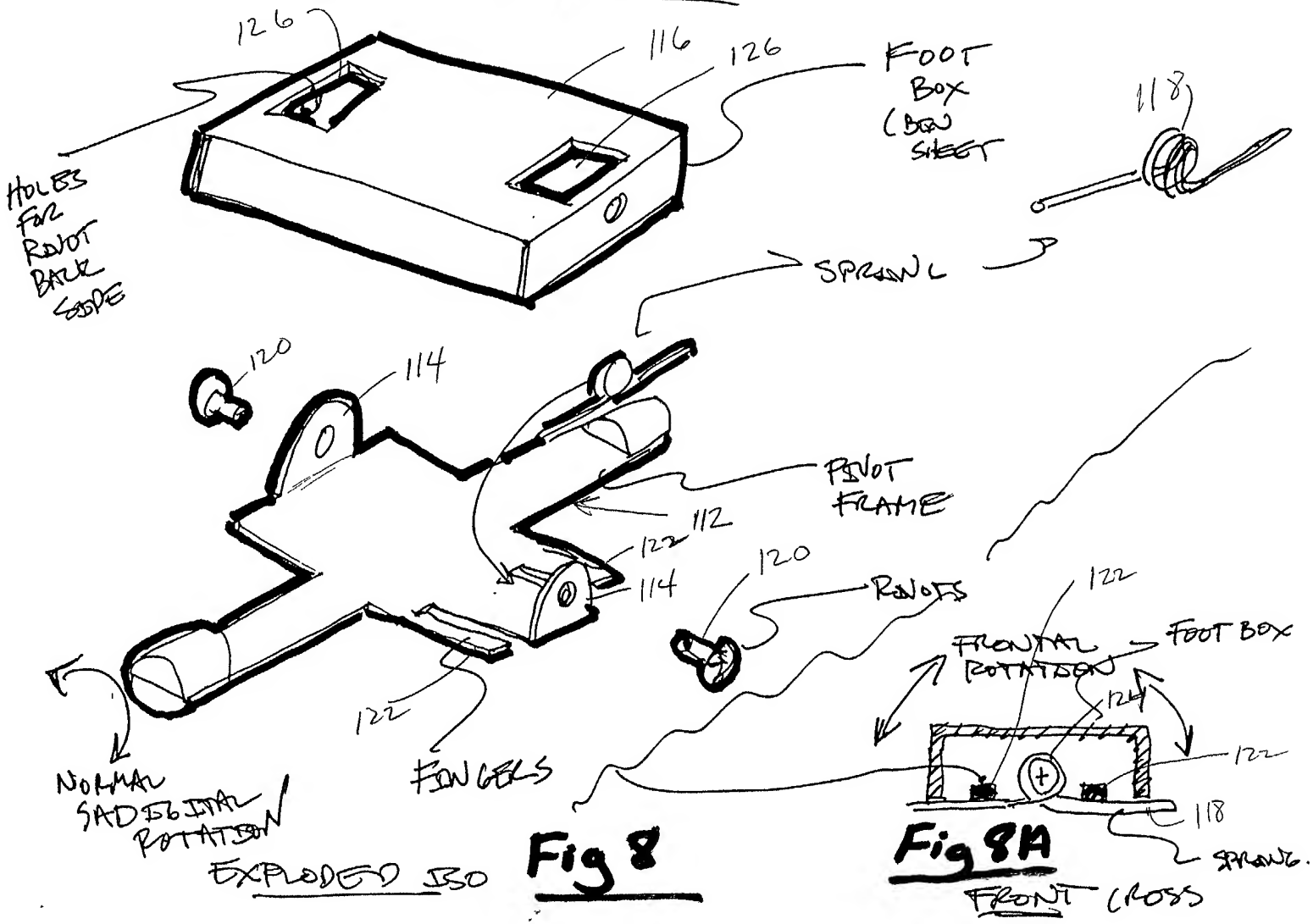


Fig. 7A

PHOTO 99T6E00T

BI DIRECTIONAL TORSION SPRING



EXPLODED ISO

Fig 8

Fig 8A

FRONT CROSS

20+070 9976001

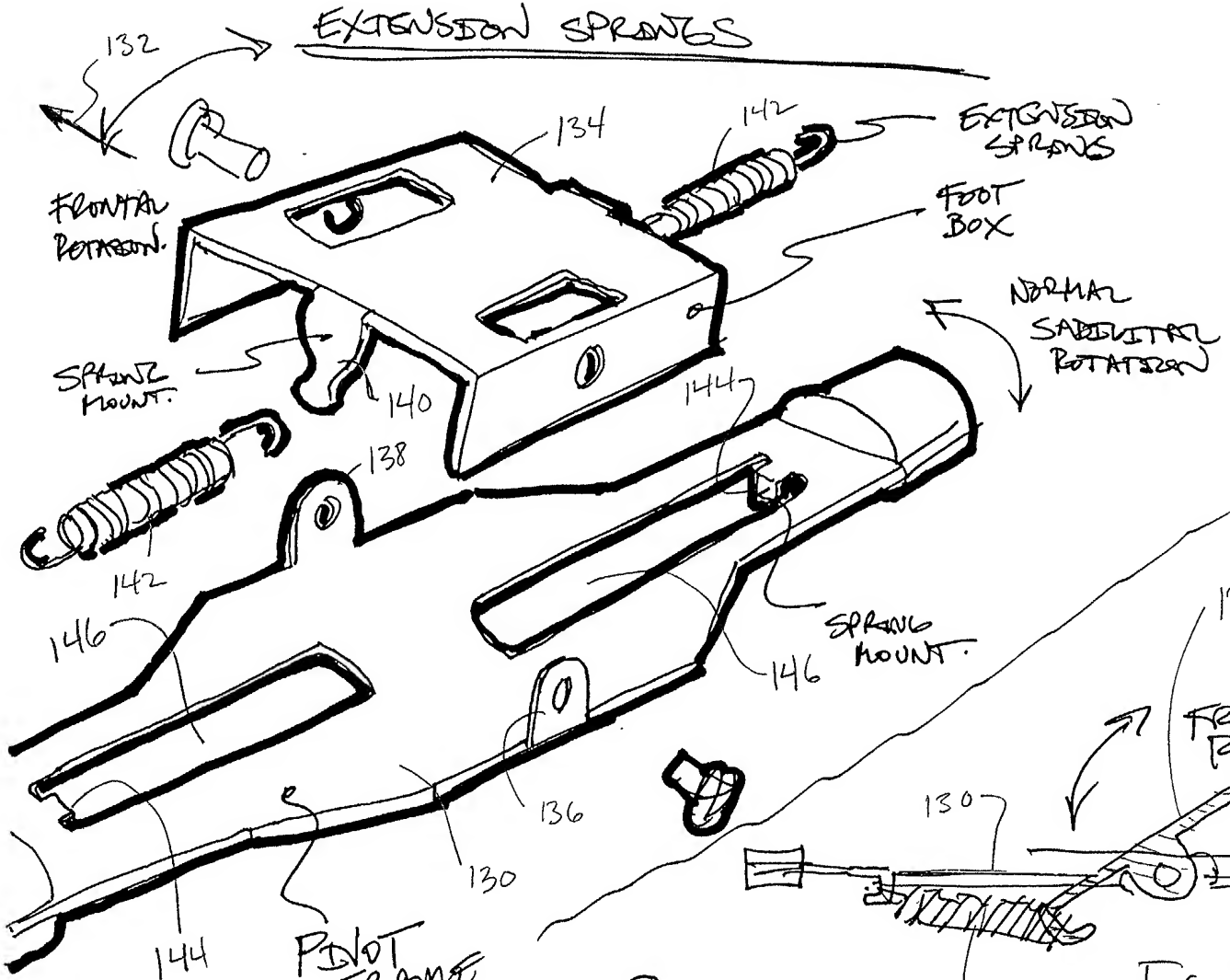


FIG. 9

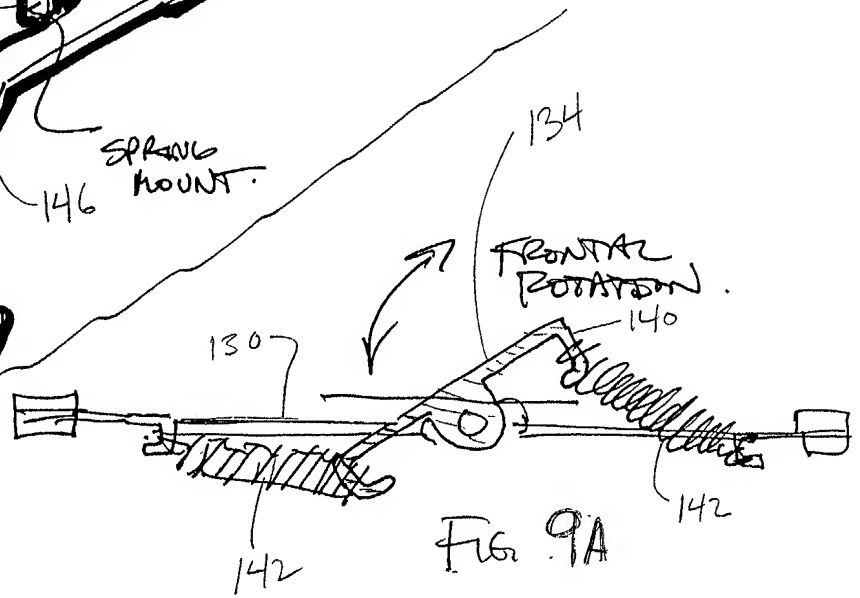


FIG. 9A

PHOTO 99T6001

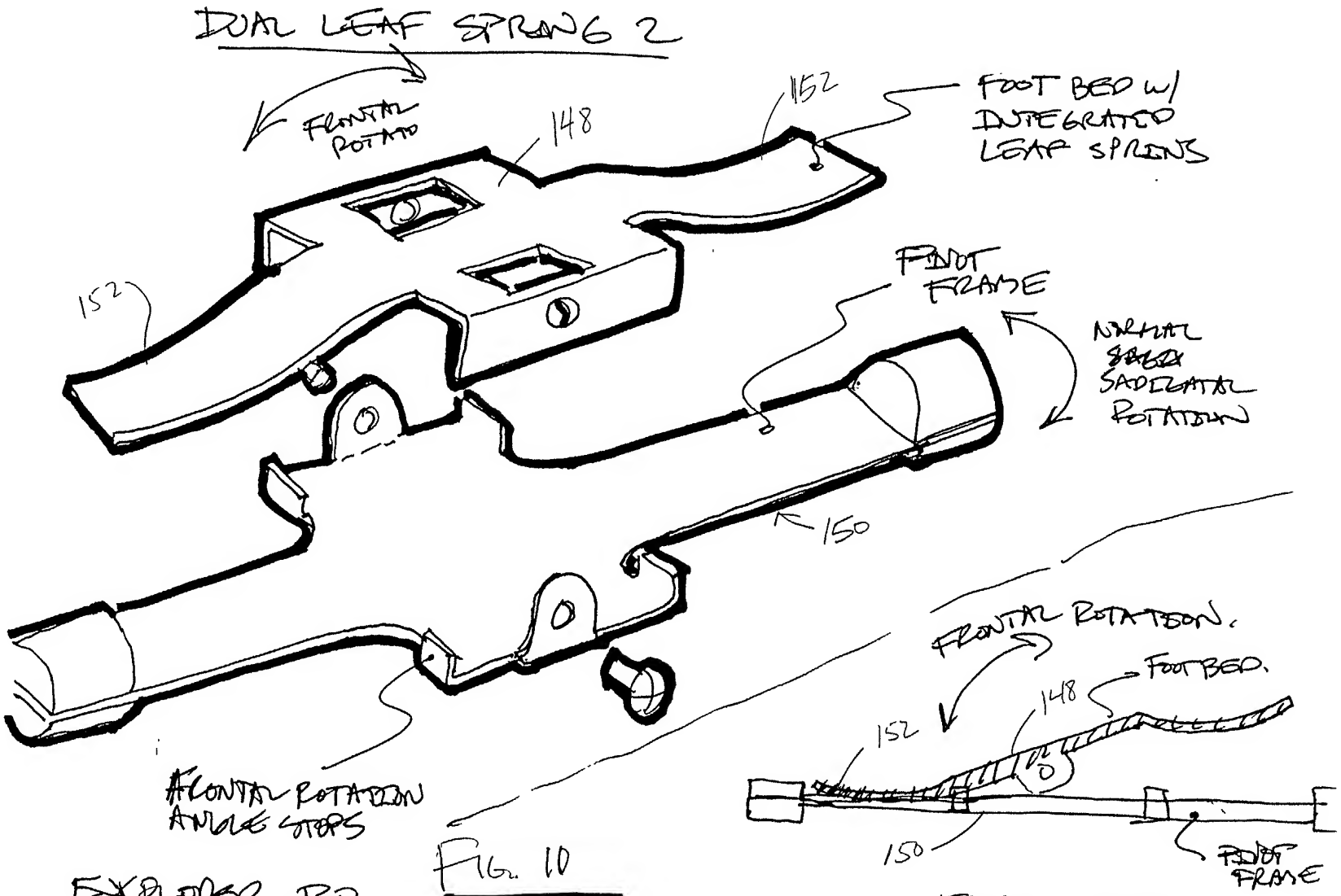


PHOTO 99T6E00T

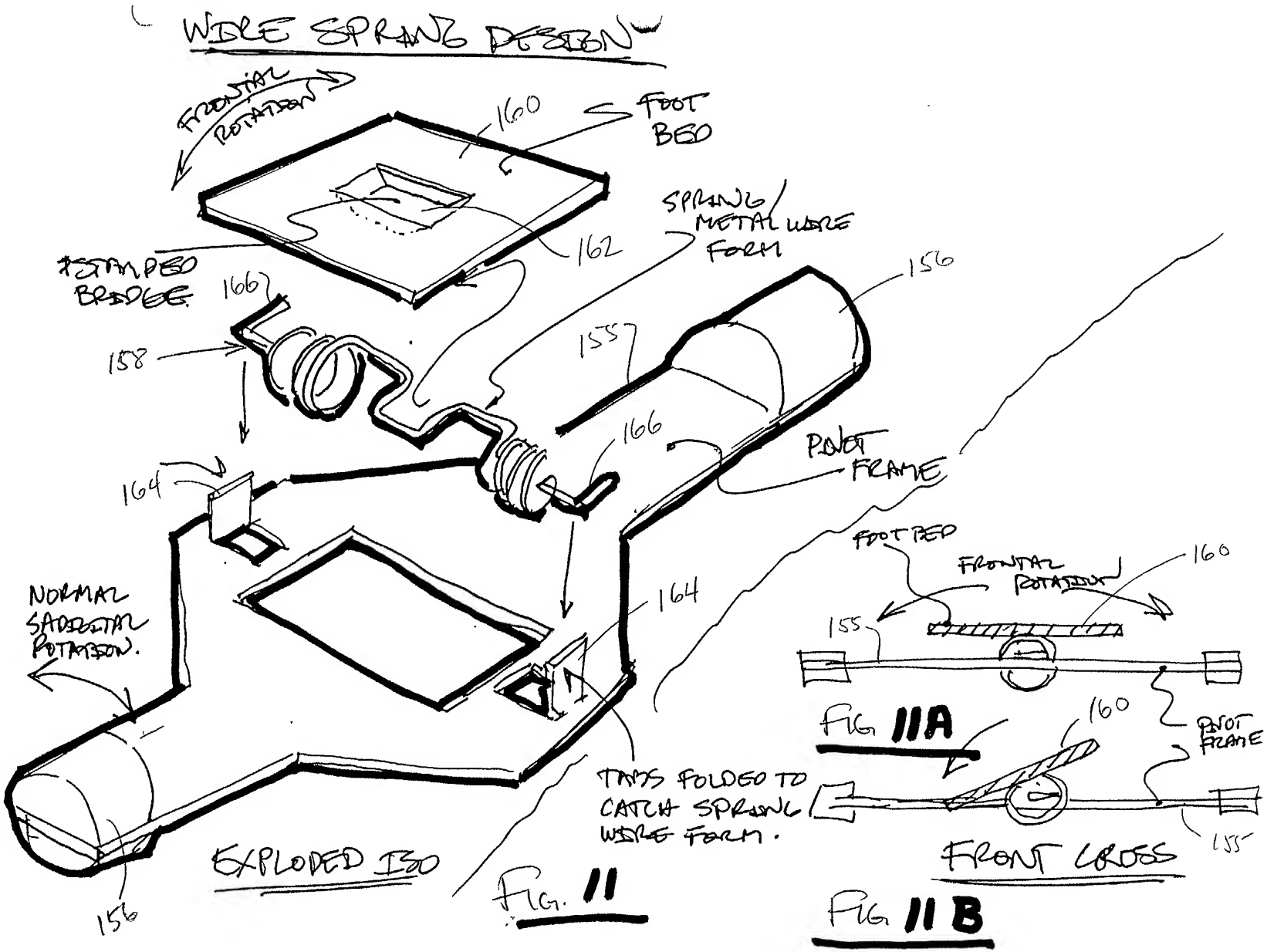
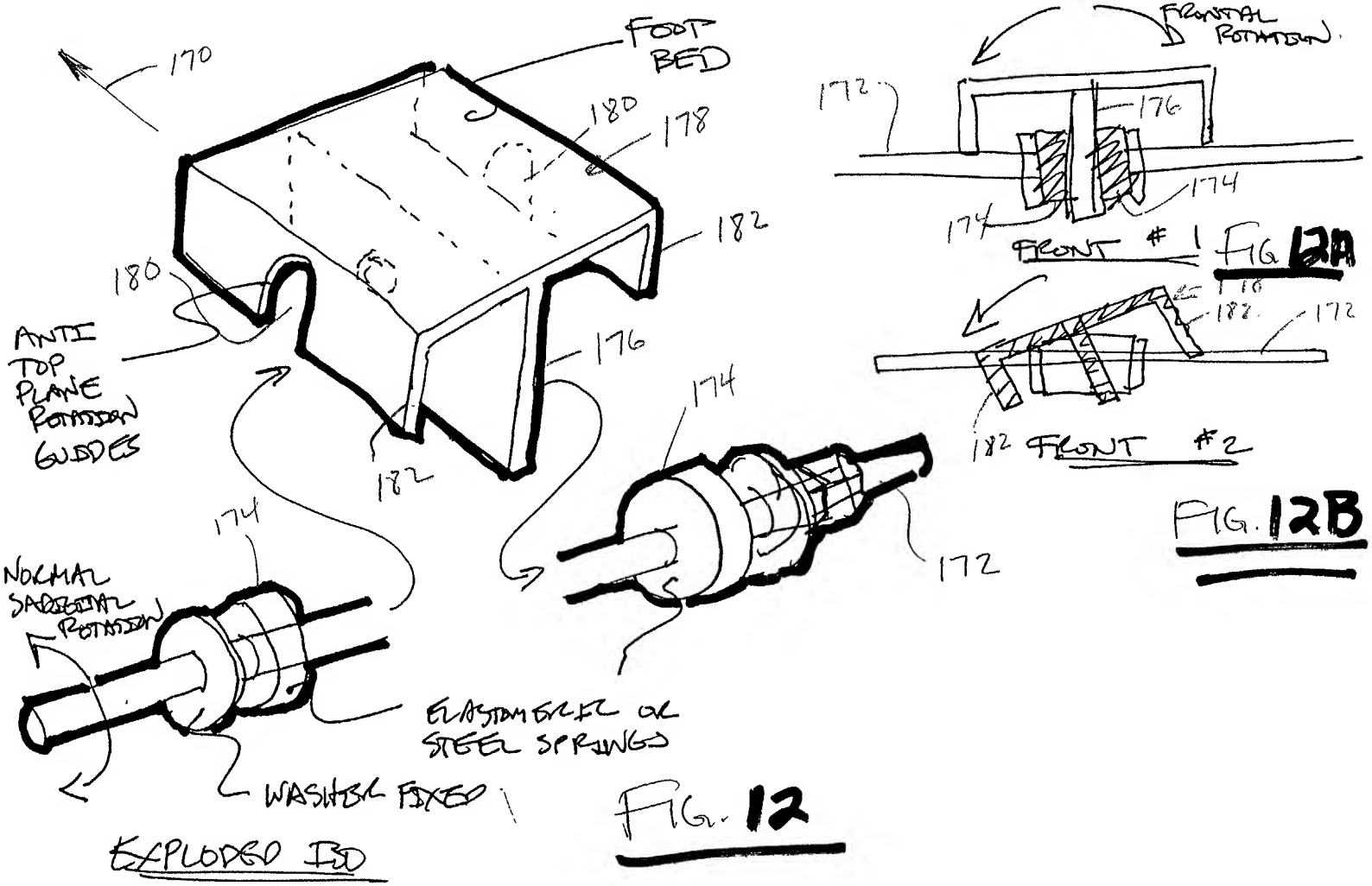


PHOTO 99TSE001

SKATEBOARD BUSHINGS II



20HOTO" 99T6EQOT

TORSION ROD METHOD TO CREATE FRONTAL ROTATION FOR SNOW SHOE

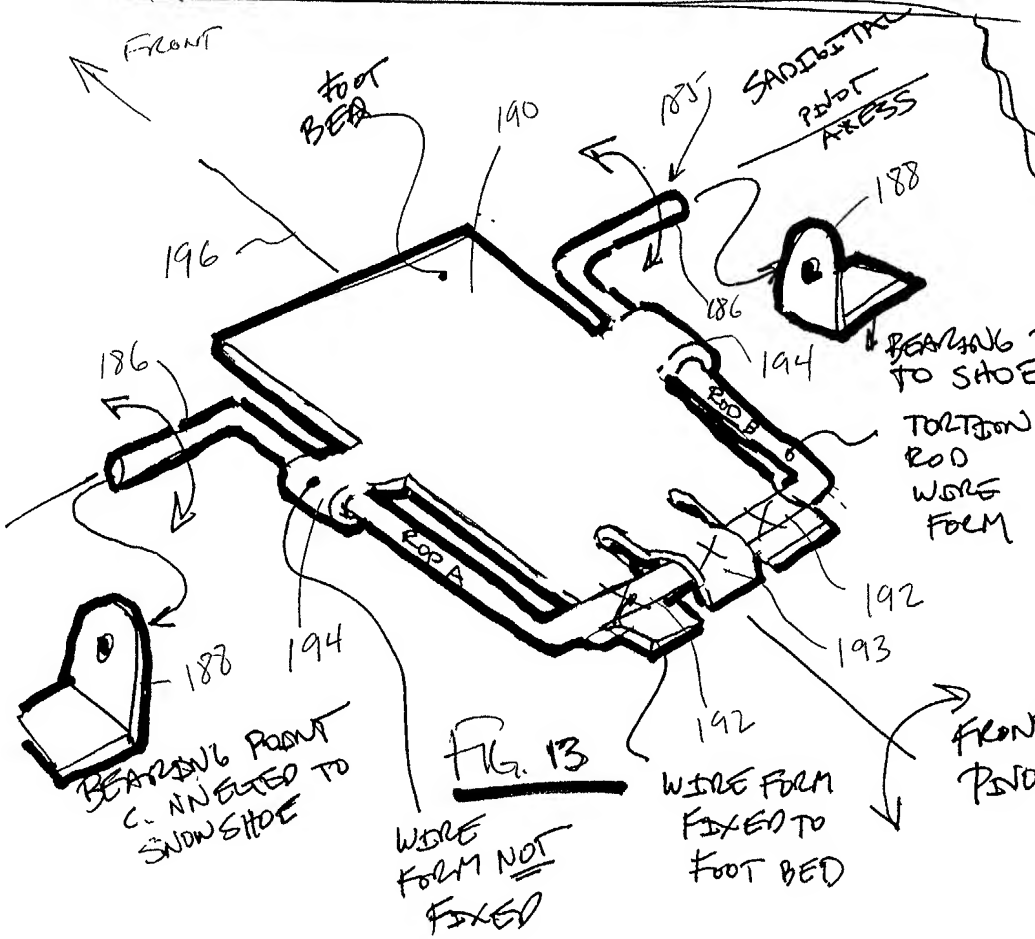


FIG. 13

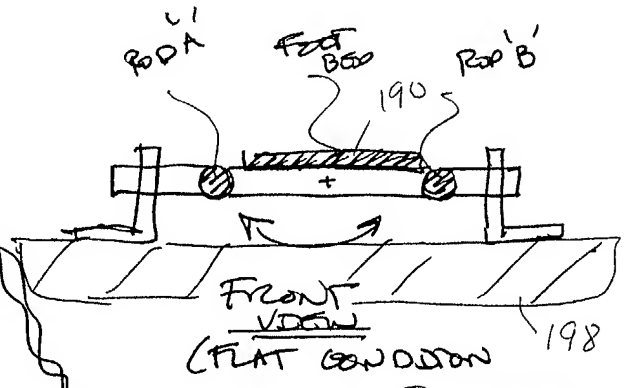


FIG 13A

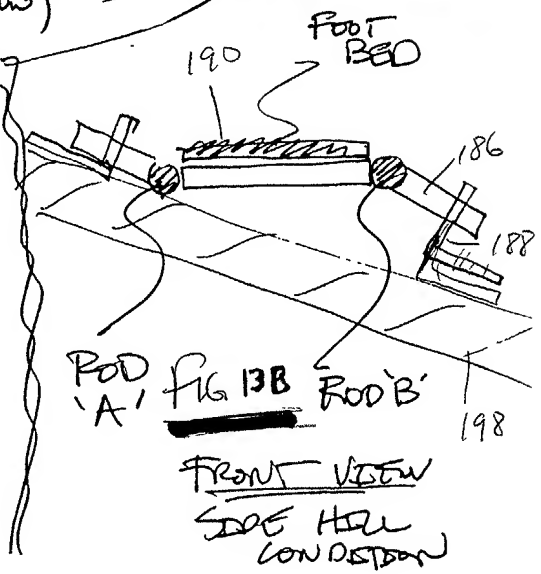
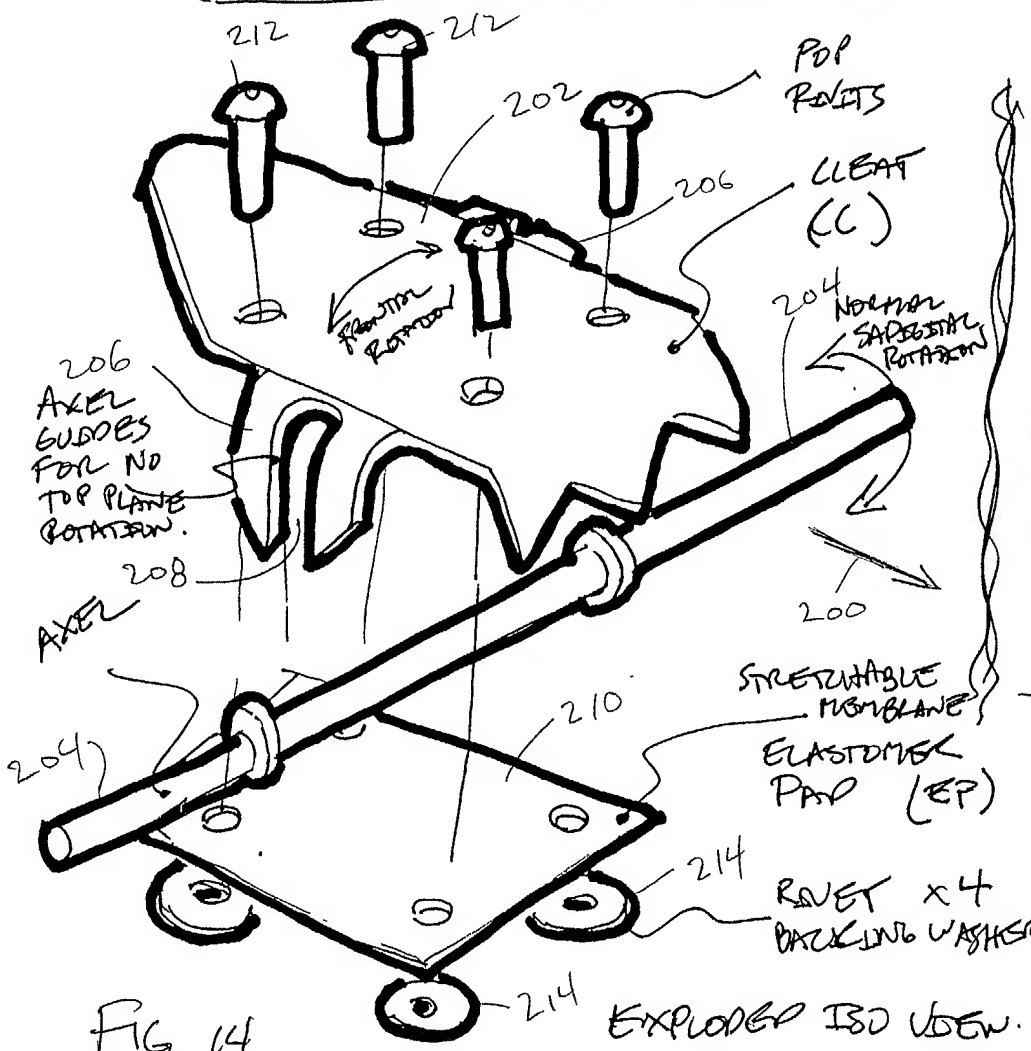


FIG 13B

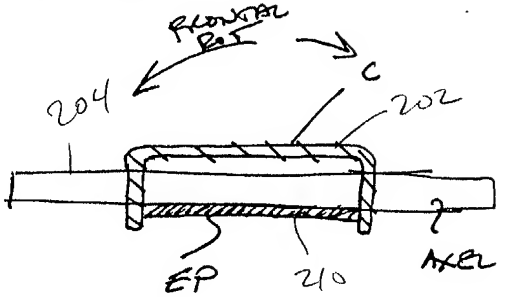
20HOTO 99 SCOOT

STRETCH PAD DESIGN FOR FRONTAL ROTATION



EXPLODED ISO VIEW.

FIG. 14



FRONT VIEW FLAT CONDITIONS

FIG. 14A

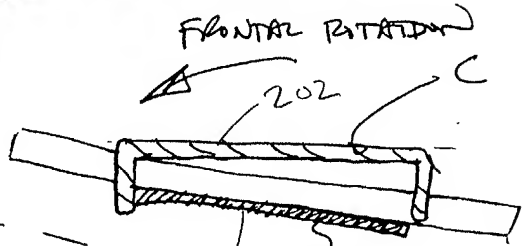


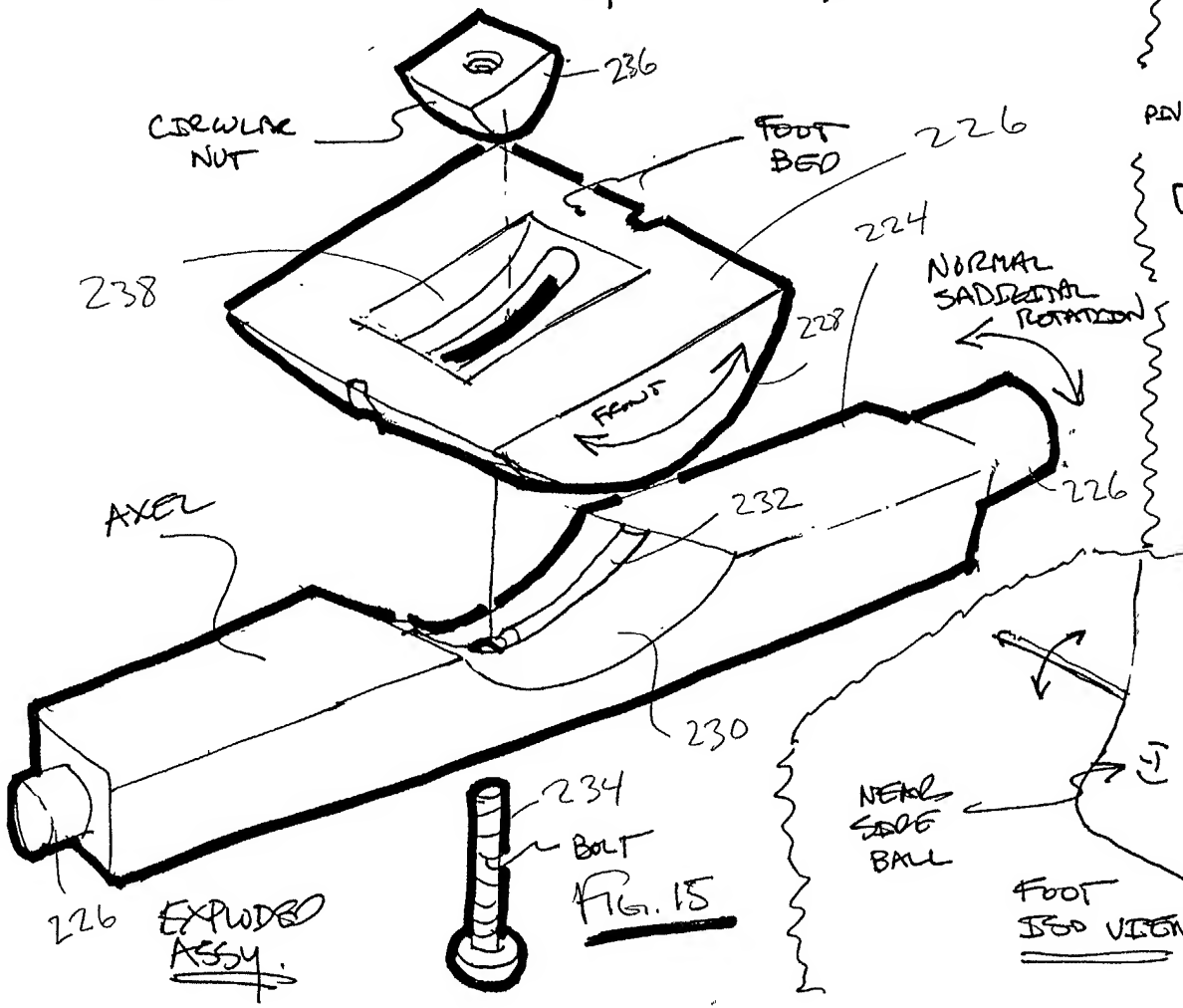
FIG 14B

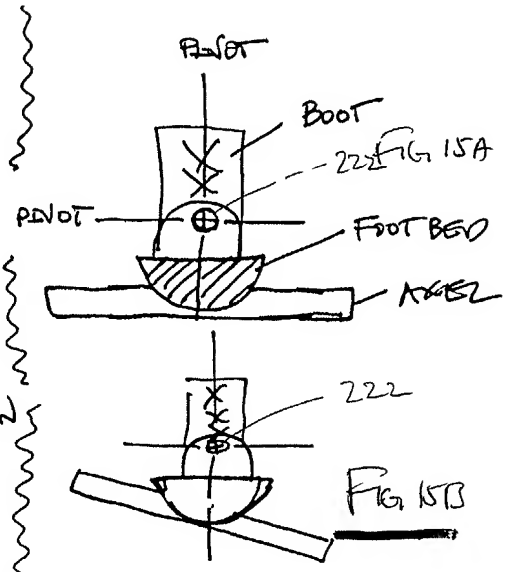
FRONT VIEW SIDE SLOPE

PHOTO "SIGEOT

VIRTUAL FRONTAL PIVOT DESIGN:

OPTIMUM FRONTAL PIVOT LOCATED ABOVE FOOT BED BY 1.0–4.0"





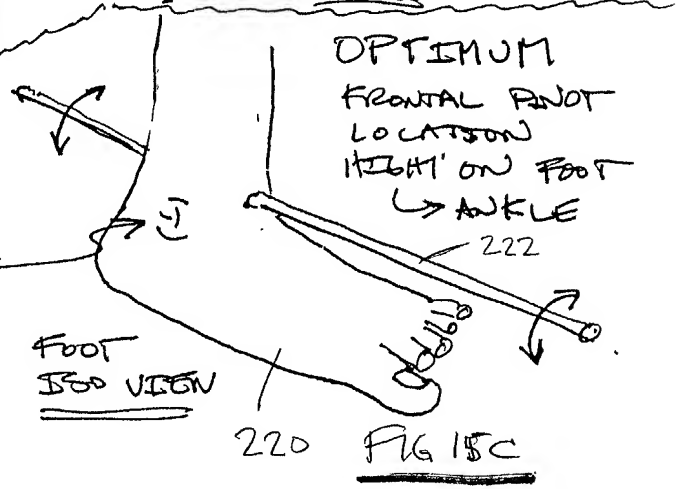
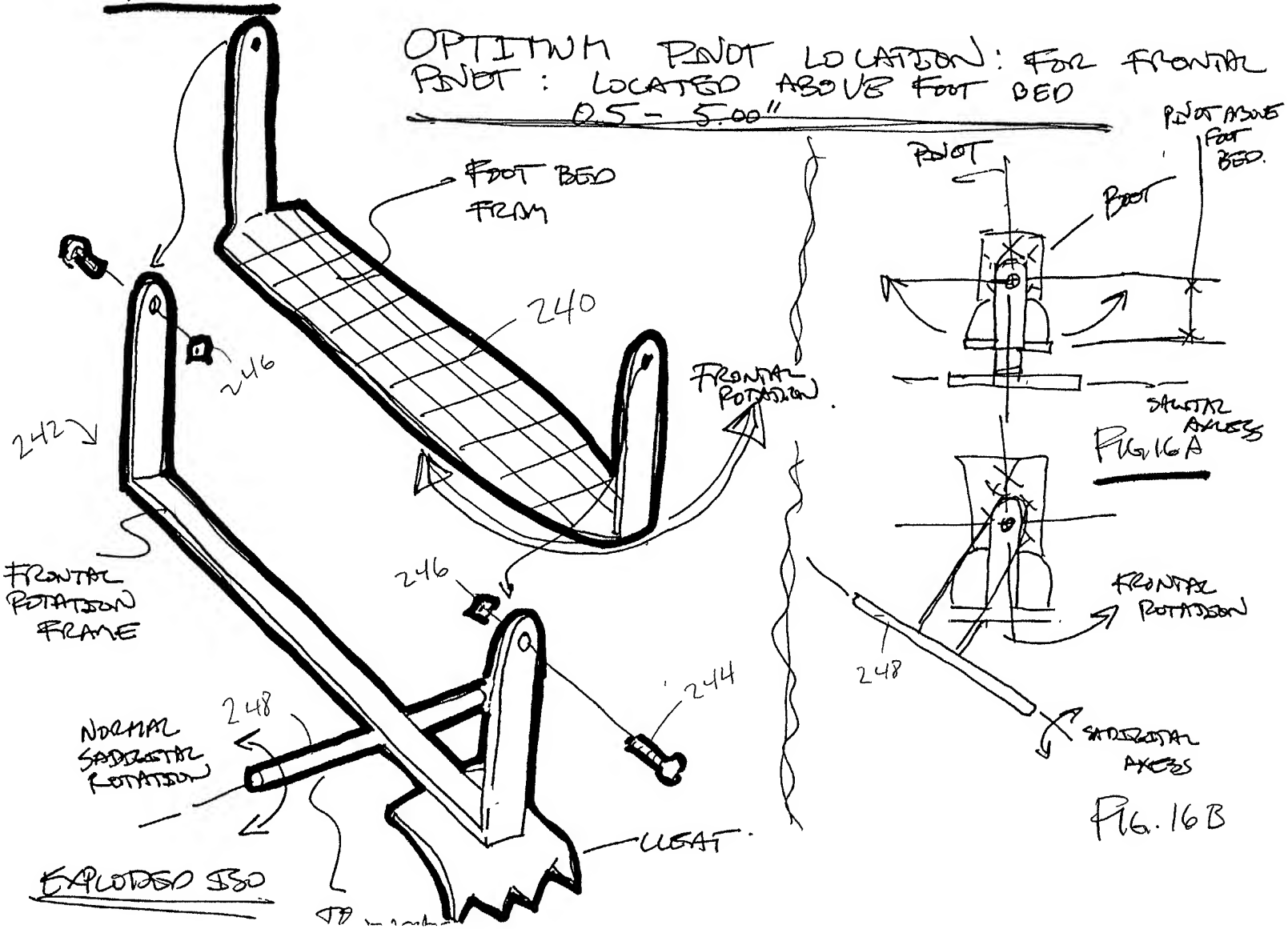


FIG. 16


OPTIMUM PIVOT LOCATION: FOR FRONTAL PIVOT: LOCATED ABOVE FOOT BED 0.5 - 5.00"
FOOT BED FRAME
240
246
242
FRONTAL ROTATION
FRONTAL ROTATION FRAME
246
244
248
NORMAL SAGGITAL ROTATION
LEGAT.
EXPLODED ISO
PIVOT
PIVOT ABOVE FOOT BED.
BOOT
SAGITAL AXLES
FIG. 16A
FRONTAL ROTATION
248
SAGITAL AXES
FIG. 16B

20HOTO 99T6E00T

SIDE TUBES IN TORSION

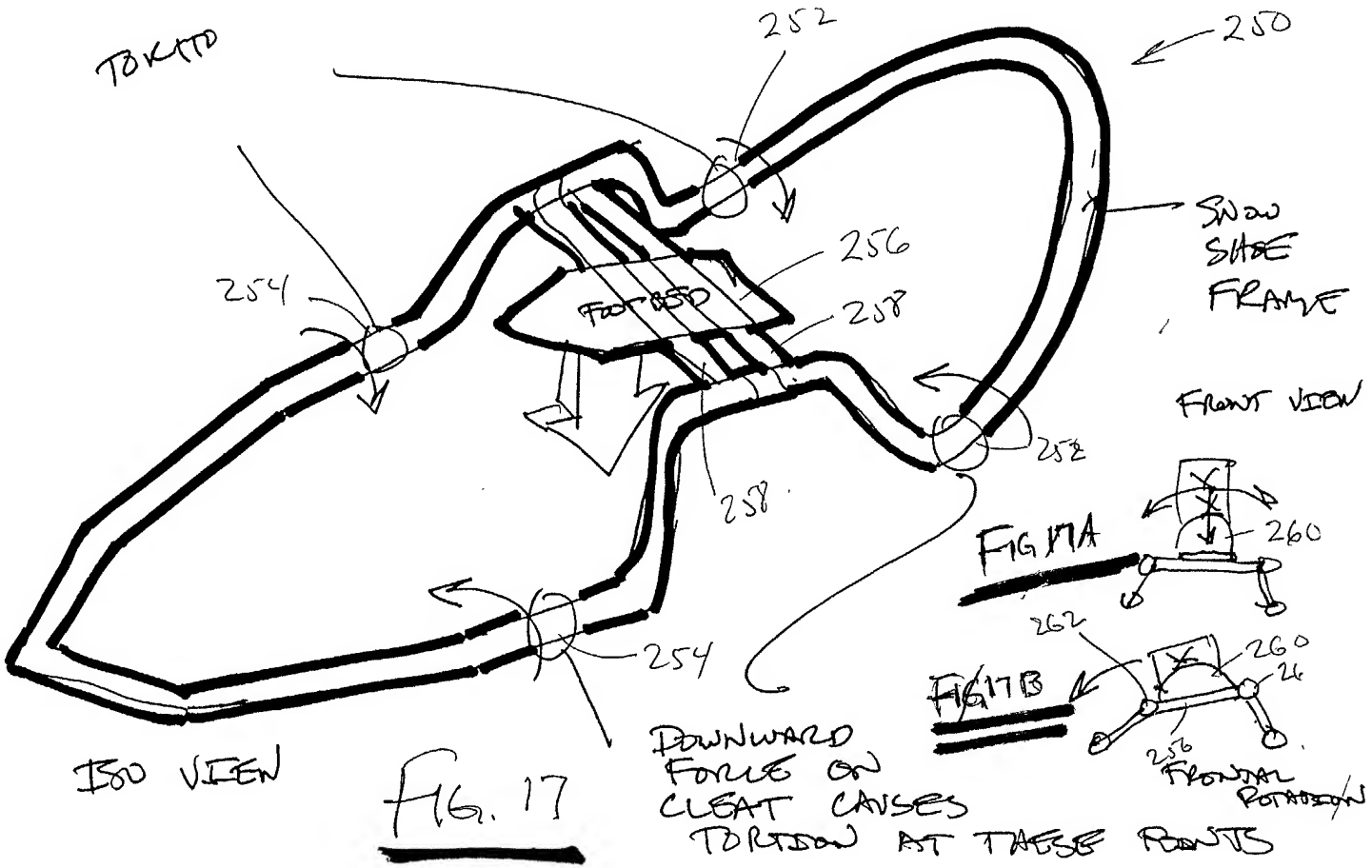


Fig. 17

20HOTO "99T6E00T

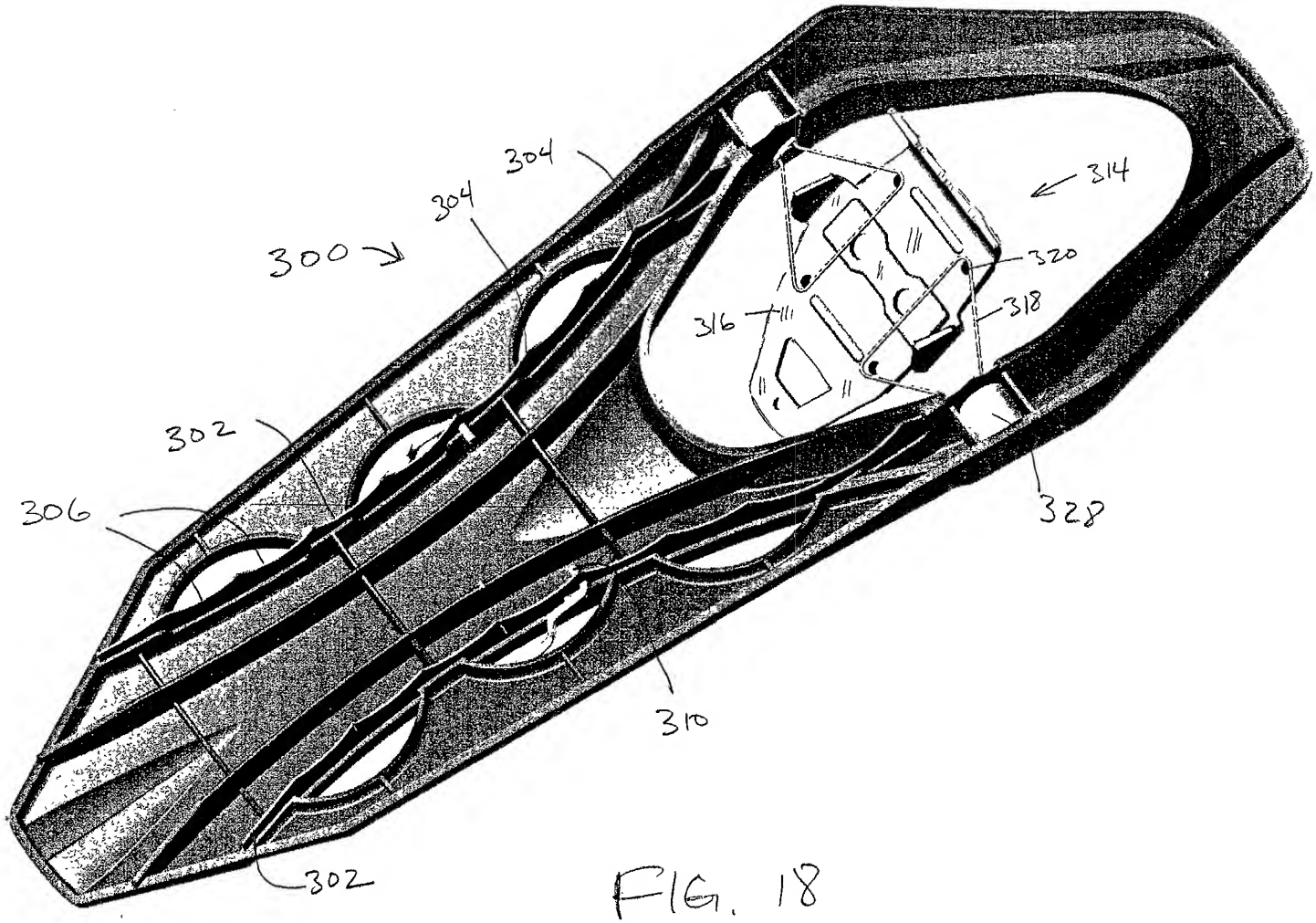


FIG. 18

20+010" 9976E00T

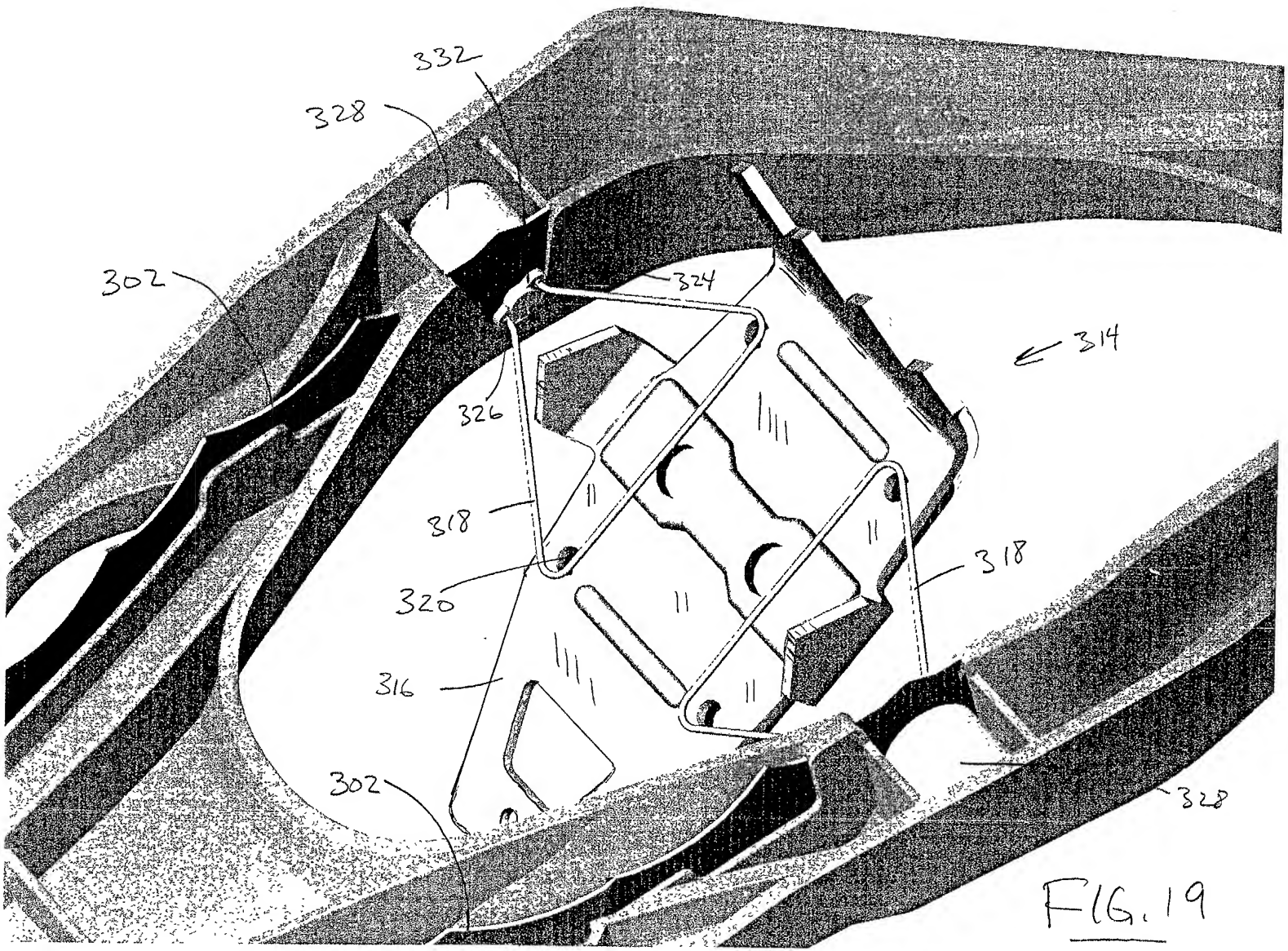


FIG. 19

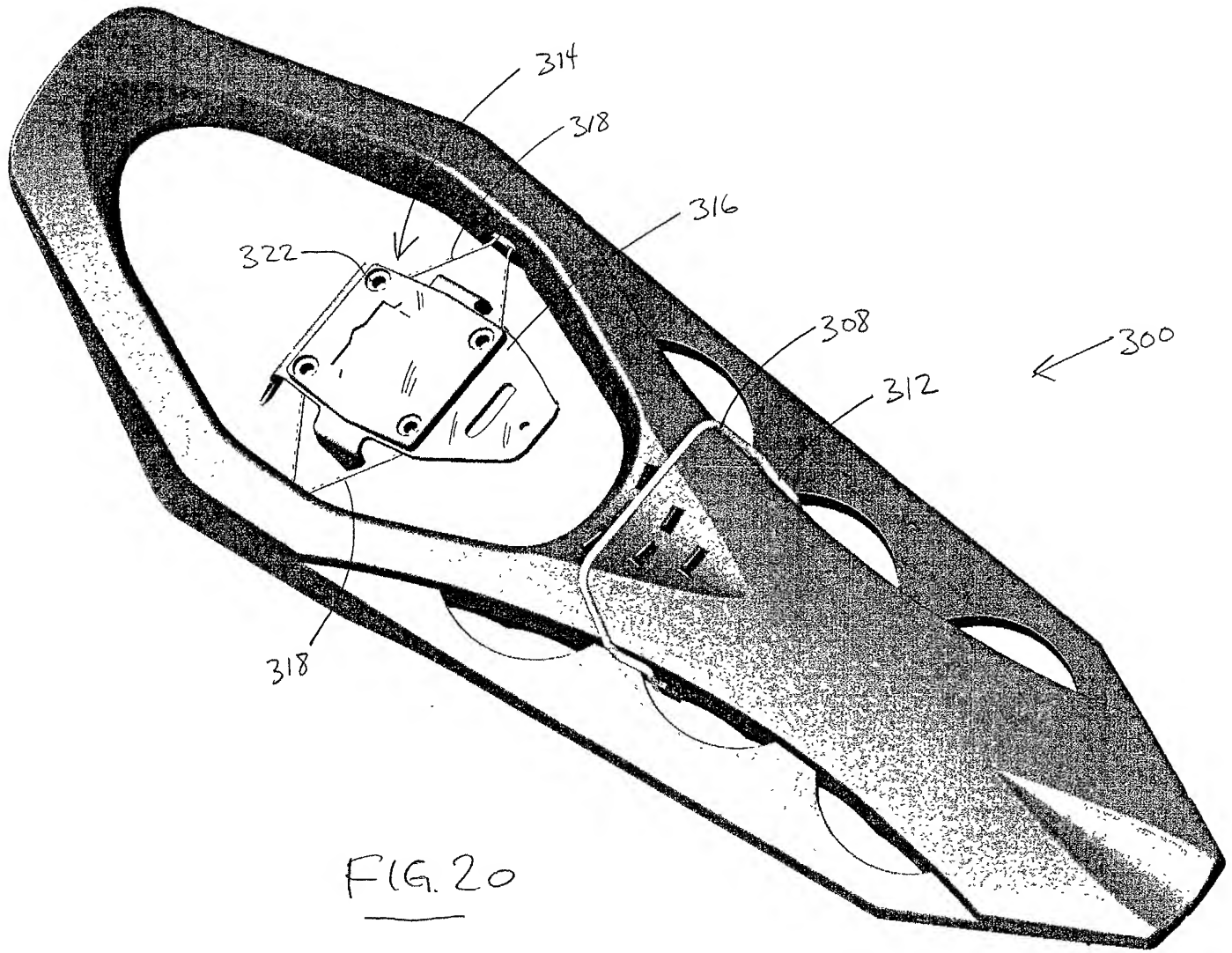


FIG. 20

20+070" 9916001

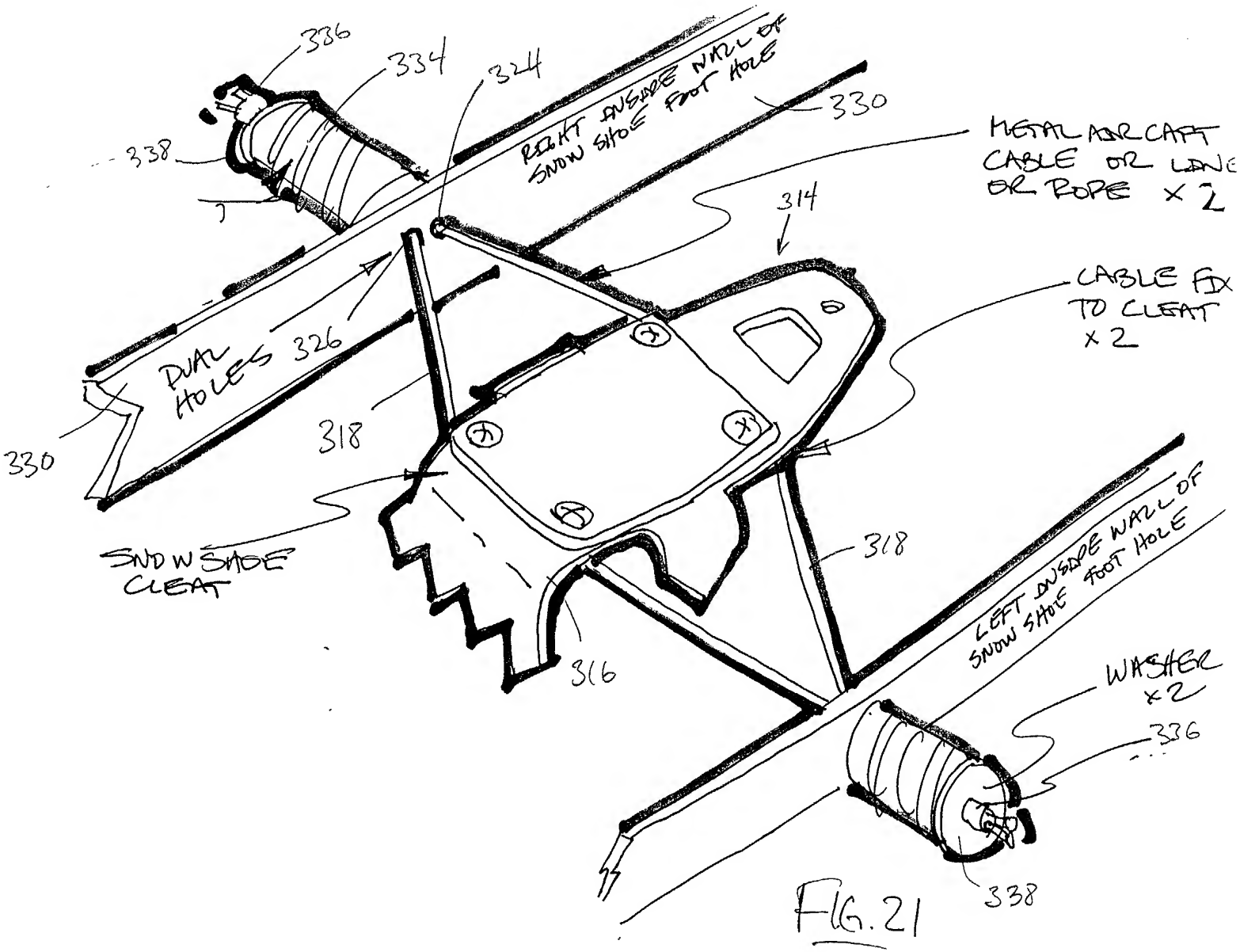


FIG. 21

20HOTO" 9T6E00T

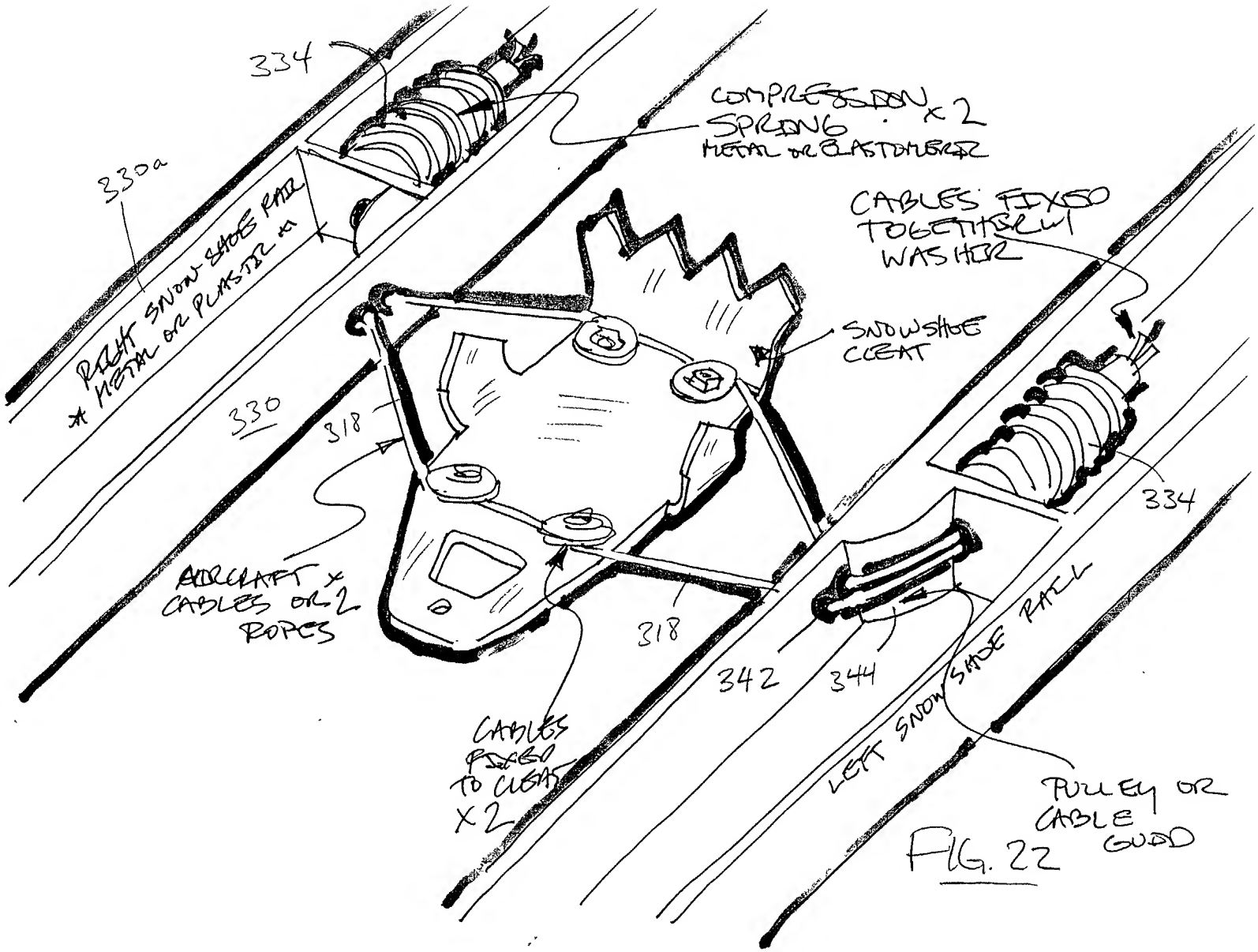


FIG. 22

20070 "99T6E00T

FIG. 23

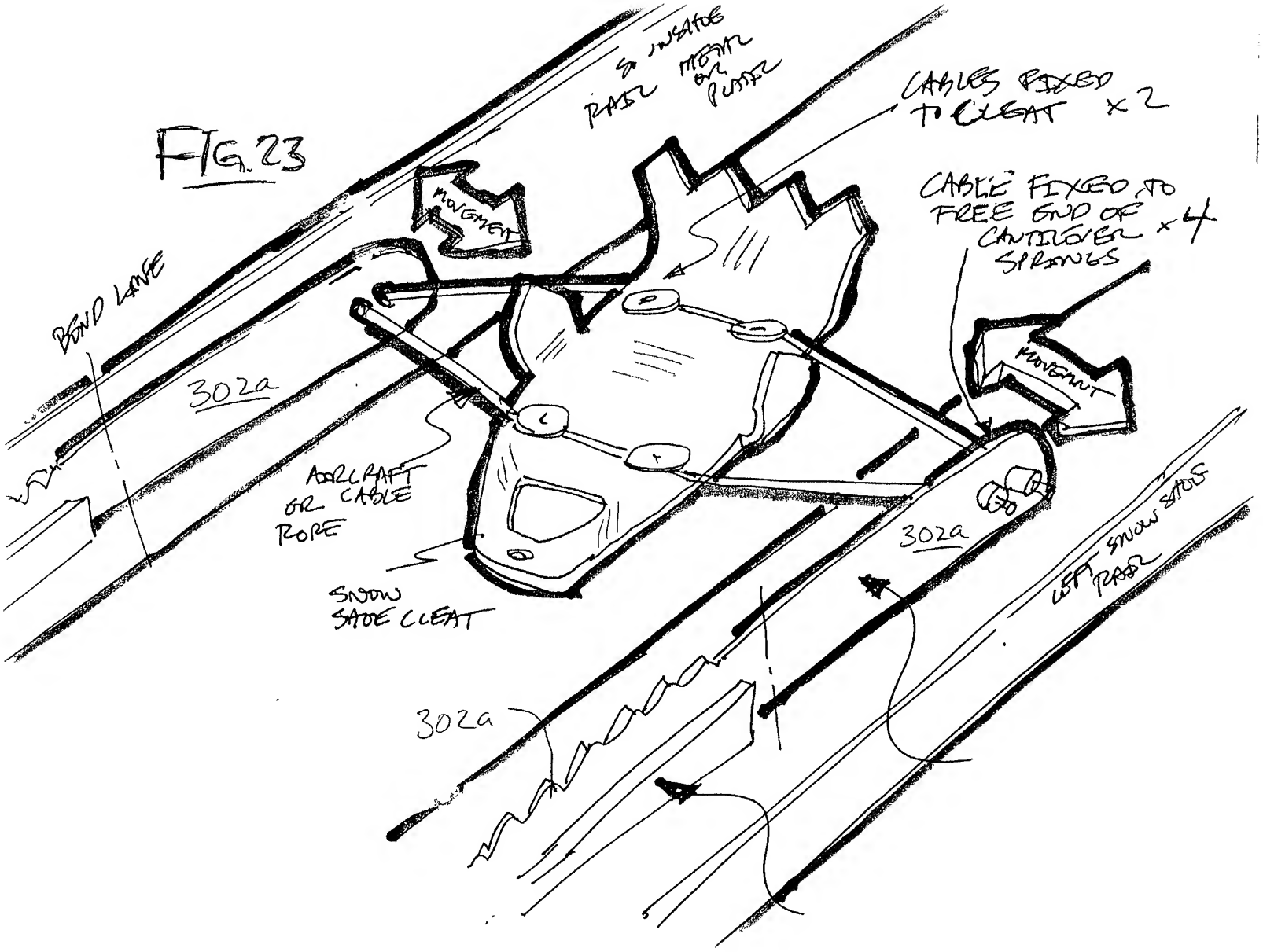


PHOTO "99E6001"

FRONTAL PLANE ROTATION OF CABLE BINDING

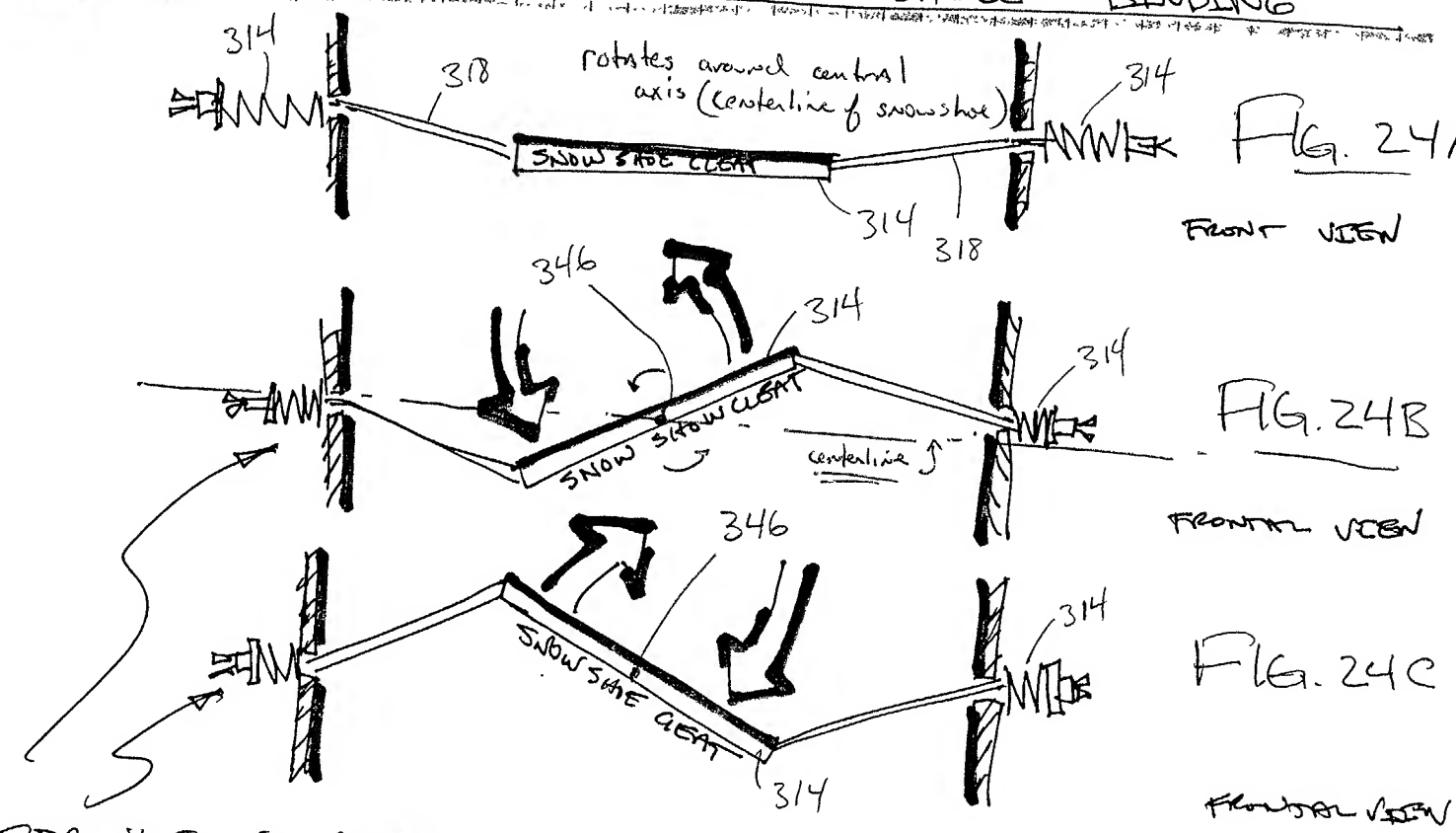


FIG. 24A

FRONT VIEW

FIG. 24B

FRONTAL VIEW

FIG. 24C

FRONTAL VIEW

- SPRINGS COMPRESS ALLOWING FRONTAL PLANE ROTATION.
- RELATIVE EVEN COMPRESSION ON EACH SIDE DUE TO EQUAL SPRING RATES / CONSTANTS.

20+070 "9T6E00T

CABEL BINDING FUNCTIONAL KEY : LINKED CABLES

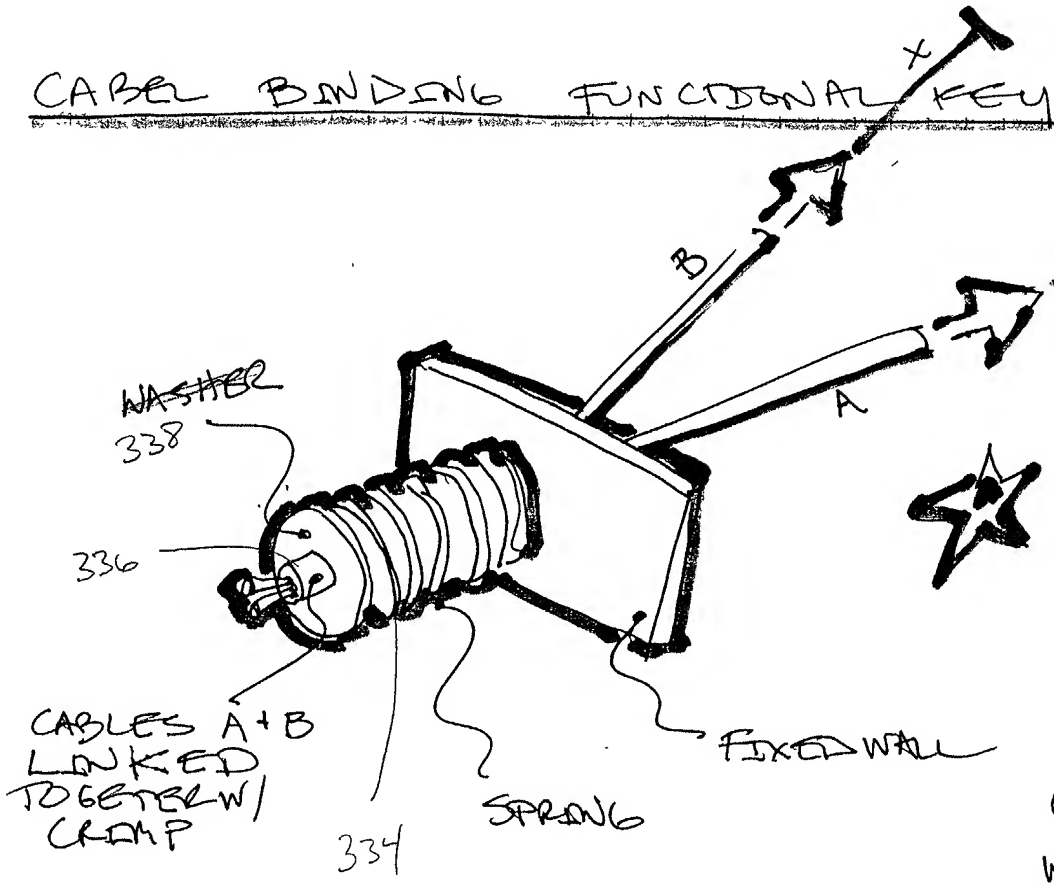


FIG. 25.

BECAUSE CABLES A & B ARE LINKED TOGETHER BEHIND THE SPRING:

ANY DISPLACEMENT OF ONE CABLE (EXTENSION OF LENGTH) WILL BE MATCHED BY THE OTHER CABLE.

20+070" 9976007

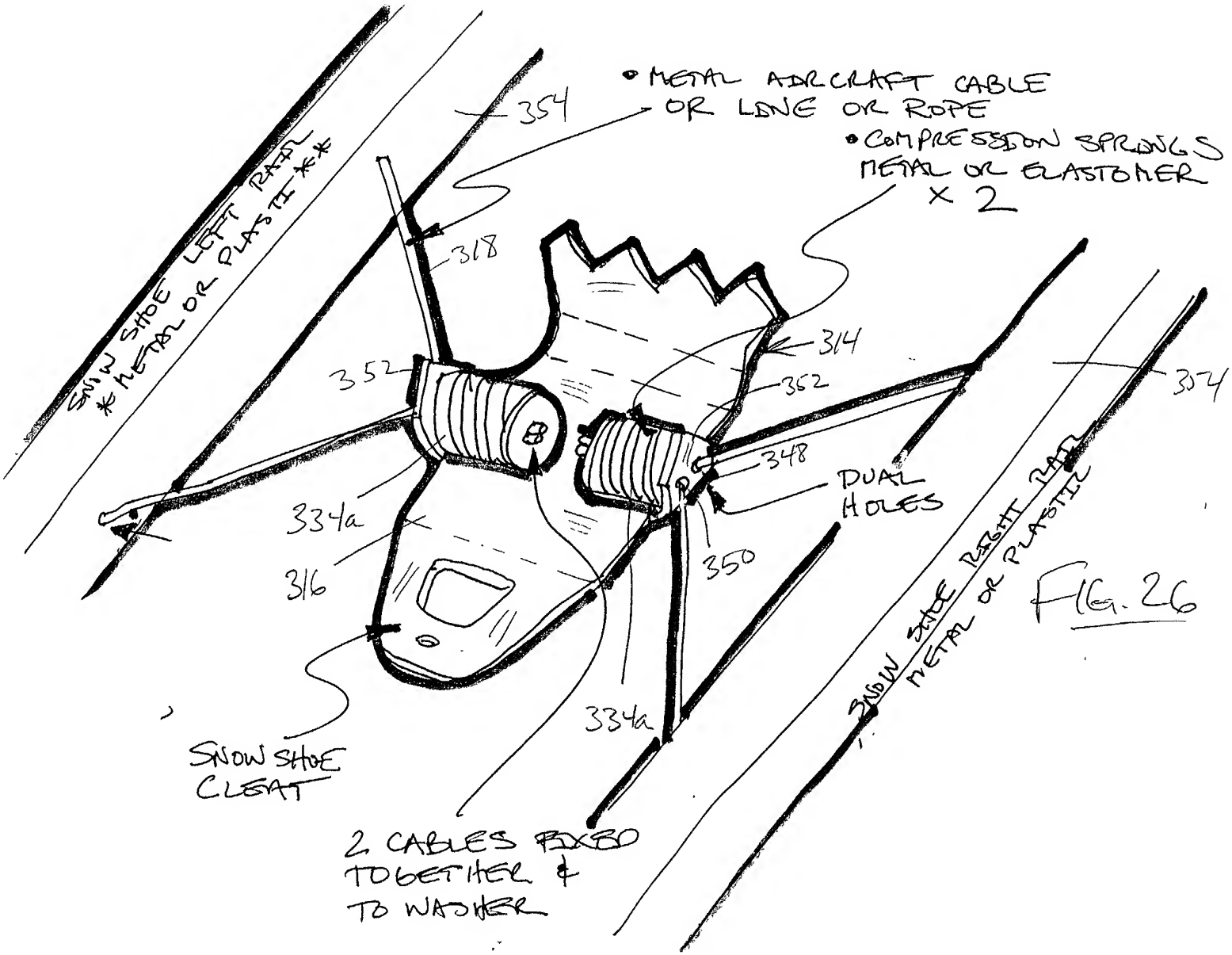


FIG. 26

20hoto" 99t6E00t

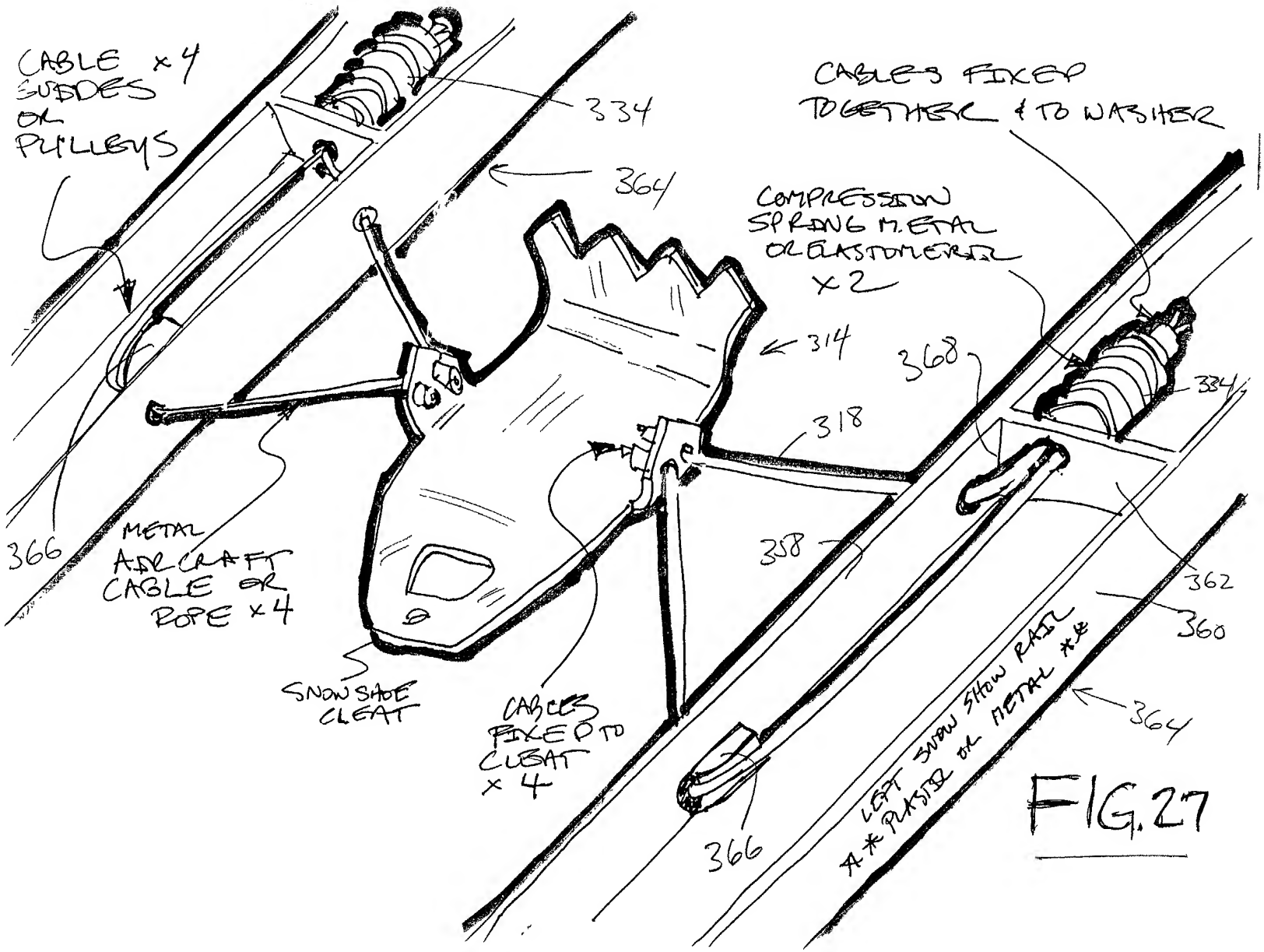


FIG. 27

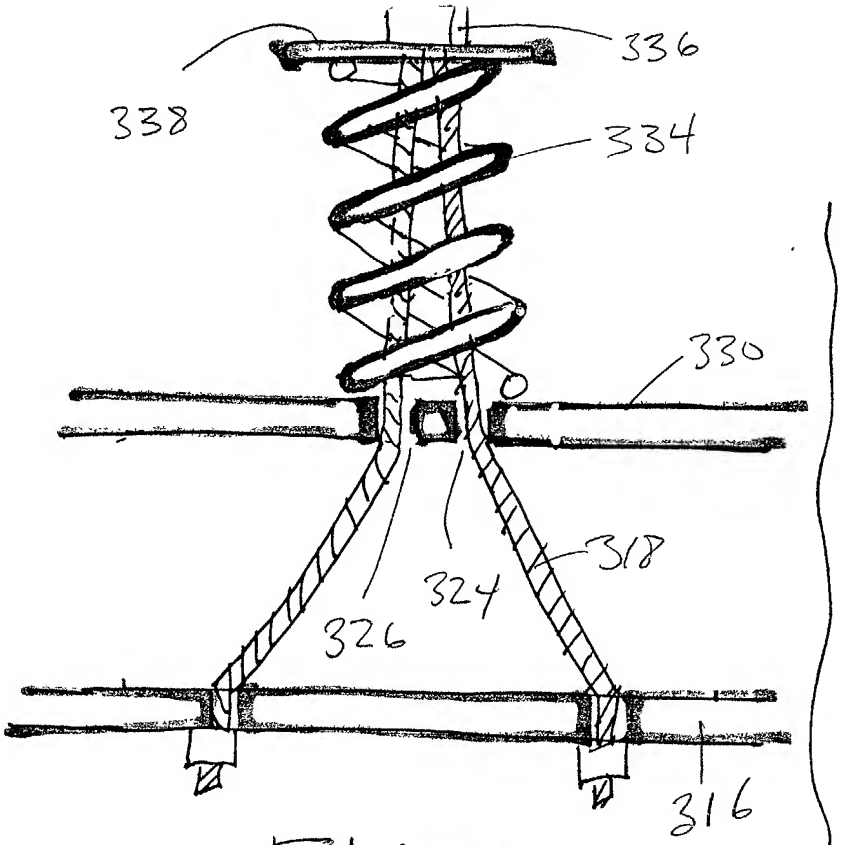


FIG. 28

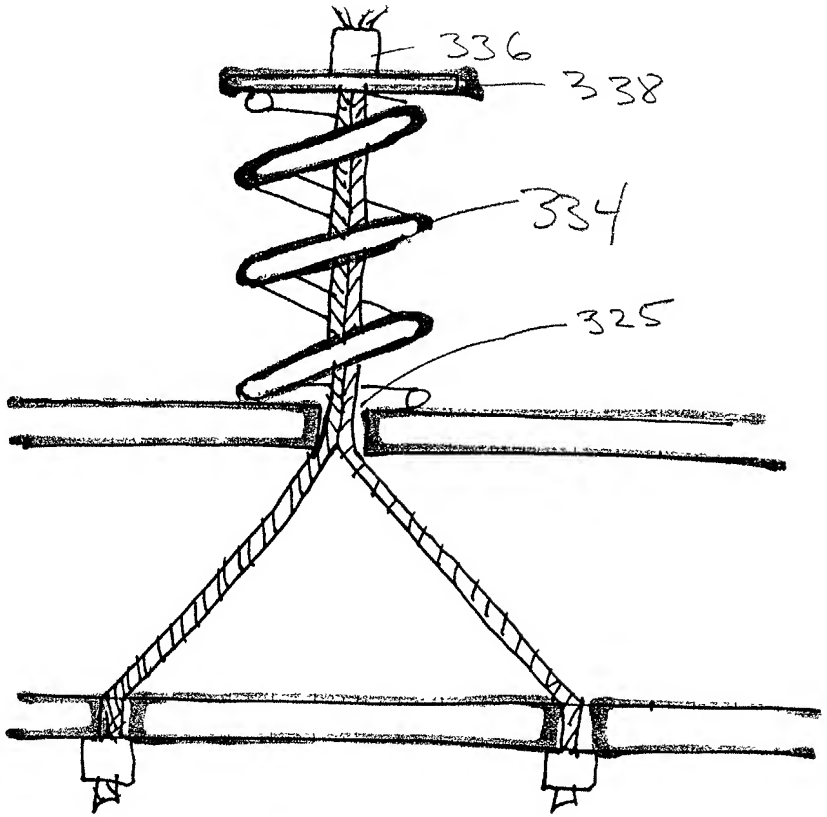


FIG. 29